



U.S. Department
of Transportation
**Federal Transit
Administration**

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Washington

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October 1, 2019

Doug Kelsey
General Manager
TriMet
1800 SW 1st Avenue, Suite 300
Portland, OR 97201

**Subject: TriMet
MAX Red Line Extension and Reliability Improvements Project
NEPA Documented Categorical Exclusion Confirmation**

Dear Mr. Kelsey:

The Federal Transit Administration (FTA) has reviewed the materials TriMet submitted by e-mail on July 9, 2019, including an FTA Documented Categorical Exclusion (DCE) worksheet and supporting documentation describing the proposed MAX Red Line Extension and Reliability Improvements Project (Project). FTA understands that the Project is located at four (4) distinct locations and includes the following attributes:

- The Project would construct approximately 4,300 feet of new trackway to convert the existing single-track configuration to double track, including overhead catenary poles and wires; construct a new station platform; and provide a multi-use path along the south side of NE Airport Way.
- Gateway – The Project would construct approximately 3,700 feet of single track to provide continuous double track between Parkrose Station and Gateway Transit Center. A new 200 -foot-long platform would be constructed approximately 500 feet north of the existing Red Line platform. A new light rail bridge structure would be constructed from the Gateway Transit Center to the southern portion of Gateway Green Park. The new bridge would accommodate a single light rail track and a 14-foot-wide paved multi-use path. The Project would require two partial acquisitions, one from the Providence Gateway Medical Center and a second from the Gateway Green Park.
- Fair Complex – The Project would require modifications to the existing trackway to support regular use of a pocket track as a light rail layover for Red Line trains. The Project would include a new operator breakroom facility (approximately 1,000 square feet). The

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Project would provide a paved pathway and lighting to provide safe access to the operator breakroom. The Project would also replace track switches, modify signals and communication equipment. All the improvements would be constructed on TriMet property.

- Ruby Junction – The Project would partially demolish an existing TriMet storage building and construct approximately 800 linear feet of new storage tracks and paved walkways. Construction of the new storage tracks would include modifications to existing switches, signals, and communication equipment, and the installation of new catenary wires and poles. The work would be completed on TriMet property.
- The Project would include the acquisition of six (6) new light rail vehicles.

Based on a review of the submitted documentation, FTA has determined that the Project qualifies as a DCE under the National Environmental Policy Act (NEPA) pursuant to 23 Code of Federal Regulations (CFR) Part 771.118(d). This determination of DCE applies only to the proposed the Project as described above and in the July 9, 2019 documentation submitted to FTA, and is contingent on TriMet implementing the mitigation measures outlined in Attachment A to this letter. Should the Project scope change or new information on the Project or its potential environmental effect be provided, FTA may require a re-evaluation of the NEPA determination and may withdraw or suspend the DCE or require additional environmental reviews.

This confirmation is not an expressed or implied promise that Federal financial assistance for the Project will be awarded. Please contact Steve Saxton at 206-220-4311 or james.saxton@dot.gov if you have any questions.

Thank you for coordinating with FTA.

Sincerely,

LINDA M
Digitally signed by
LINDA M GEHRKE
Date: 2019.10.01
15:08:31 -0700
GEHRKE

Linda M. Gehrke
Regional Administrator

Enclosure: Attachment A, Metro and TriMet, MAX Red Line Extension and Reliability
Improvements Project, NEPA Documented Categorical Exclusion Confirmation,
Mitigation Measures, July 9, 2019

cc: Paige Schlupp, TriMet
David Unsworth, TriMet
Sean Callahan, FAA

Attachment A

TriMet

MAX Red Line Extension and Reliability Project NEPA Documented Categorical Exclusion Confirmation Mitigation Measures July 9, 2019

TriMet will follow all relevant federal, state, and local regulations. TriMet will also develop and implement appropriate Best Management Practices (BMPs) prior to construction for water quality, erosion, hazardous materials, and air quality. The following measures will be implemented as part of the MAX Red Line Expansion and Reliability (Project) to avoid or minimize impacts during construction:

- ***Displacements and Right-of Way***

The construction of the Project will result in the acquisition of a portion of the Providence Gateway Medical Plaza parking lot. TriMet will provide property owners with monetary compensation in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Relocation Act) and FTA's Circular 5010.1D Grants Management. No businesses or persons will be displaced from the property.

- ***Traffic and Property Access***

Prior to construction, TriMet will finalize detailed construction plans in coordination with the Cities of Portland, Hillsboro, and Gresham, the Port of Portland and with ODOT during the Final Design and permitting phases of the Project. As discussed in Section III.S, a Traffic Control Plan will be developed as part of this planning and coordination if lane closures are required. During construction, the Project will comply with local regulations governing construction traffic control and construction truck routing. When access is provided through the construction zone, it will meet applicable federal, state and local regulations, including the ADA. TriMet or the contractor will provide advance notice signs prior to construction in areas where surface construction activities will affect access to surrounding businesses, and will provide detour, open for business, and other signage as appropriate. TriMet will provide a public involvement specialist as a contact person for citizens and businesses to present unresolved complaints about construction impacts to agency project management.

- ***Air/Water Quality***

Controlling construction-related exposed soil and fugitive dust emissions will include the following BMP actions, as appropriate:

- Spray exposed soil with water or other dust suppressant to reduce emissions of particulate matter during dry periods
- Use phased development to keep areas of disturbed soils to a minimum
- Use wind fencing when appropriate to reduce disturbance to soils

- Comply with the NPDES Construction Stormwater General Permit process, including developing a stormwater pollution prevention plan (SWPPP) and temporary erosion and sediment control plan
- Locate construction equipment and truck staging areas away from sensitive receptors as practical and in consideration of potential impacts on other resources
- Cover dirt, gravel, and debris piles as needed to reduce dust and wind-blown debris
- **Noise and Vibration**
TriMet and its contractor(s) will comply with all local ordinances regarding construction-related noise ordinances, permits, or variance conditions. Noise control for nighttime or daytime work will include the following measures, as necessary, to meet the required noise limits:

- Install construction site sound walls by noise-sensitive receivers
- During nighttime work, use smart backup alarms that automatically adjust or lower the alarm level or tone based on the background noise level
- Use low-noise emission equipment
- Implement noise-deadening measures for truck loading and operations
- Conduct monitoring and maintenance of equipment to meet noise limits
- Use lined or covered storage bins, conveyors and chutes with sound-deadening material
- Use acoustic enclosures, shields or shrouds for equipment and facilities
- Prohibit nighttime jack-hammering and impact pile-driving
- Minimize the use of generators or use quiet generators to power equipment
- Limit the use of public address systems

Where appropriate, measures to minimize short-term annoyance from construction vibration will include the use of alternative methods with less vibration, such as drilled shafts in place of driven piles, or the use of static roller compactors rather than vibratory roller compactors. Activities with the potential for short-term annoyance will also be restricted to shorter periods and daytime hours, when vibrations and noise are less noticeable. Construction vibration specifications will limit construction vibration to a maximum of 0.5 in/sec at the foundation of structures adjacent to the alignment, with fragile or sensitive structures limited to 0.12 in/sec. The use of high-vibration construction equipment will be limited near sensitive receivers such as residences and the medical buildings, schools, and hospitals.

- **Hazardous Materials**
Construction of the proposed Project would include disturbance of the subsurface which could result in contaminated soil and/or groundwater from an undocumented source being encountered. Consistent with TriMet standard practice, prior to construction, the contractor, in coordination with TriMet, will develop plans to address the proper handling and disposal of any hazardous materials found during

construction. If undocumented hazardous materials or contaminated media are encountered, they will be transported and disposed of in accordance with federal, state, and local regulations.

Although no impacts are anticipated, BMPs will include contractors preparing project-specific and site-specific hazardous material management plans, health and safety plans, contaminated media management plans, and spill prevention, control, and countermeasures plans. In addition, the contractor will be required to develop and comply with the SWPPP.

- ***Public Services and Utilities***

TriMet will coordinate with public service providers before and during construction to maintain emergency access. TriMet will coordinate with utility providers and the public. Preconstruction measures will include ground penetrating radar, potholing, and survey to identify utility locations. TriMet will continue to work with utility providers to minimize any potential service interruptions and perform outreach to notify the public of planned or potential service interruptions and utility relocations.

- ***Section 106 – Archeologic and Historic Resources***

- TriMet will prepare and implement an Inadvertent Discovery Plan (IDP) for Archeological resources.
- The IDP will be incorporated into the construction contracts for the Project.

MAX Red Line Extension and Reliability Improvements Project Documented Categorical Exclusion Checklist

TriMet

July 9, 2019

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List of Attachments

Letter	Title
A	Environmental Justice Technical Memorandum
B	Hazardous Materials Technical Memorandum
C	Noise and Vibration Technical Report
D	Cultural Resources Reconnaissance Report
E	Determination of No Effects for Federally Listed Species or Critical Habitats
F	Section 4(f) De Minimis Analysis Memorandum
G	Engineering roll-plot drawings of design at PDX Airport and Gateway
H	Study on ADA requirements at Gateway

I. Project Description		
Sponsoring Agency TriMet	Date Submitted July 9, 2019	FTA Grant Number(s) (if known)
Project Title MAX Red Line Extension and Reliability Improvements Project		
Project Description (brief) <p>The MAX Red Line Extension and Reliability Improvements Project includes capital improvements at four locations to improve MAX systemwide reliability and extends MAX Red Line service to 10 existing MAX Blue Line stations from west of the Beaverton Transit Center (TC) to a terminus at the existing Fair Complex/Hillsboro Airport Station. The capital improvements include the following:</p> <ul style="list-style-type: none"> • Approximately 11,800 feet of new or reconstructed one-way track with overhead catenary electric power supply • A new bridge structure over I-84 (approximately 475 feet long) for both a light rail trackway and multi-use path access to Gateway Green Park • One reconstructed center platform station at PDX Airport and one new platform at the Gateway TC • A new operator break facility and systems and trackwork improvements at the Fair Complex Station • 800 feet of additional storage track at the Ruby Junction storage and maintenance facility • Eight new light rail vehicles to serve the extension of the Red Line • Approximately 6,800 linear feet of new or reconstructed multi-use path at PDX Airport and Gateway 		

Purpose and Need for Project

The project corridor includes offices and manufacturing for two of the region's largest employers (Intel and Nike) and the fast-growing high-tech industries known as the Silicon Forest. The corridor also includes a growing housing supply and population linked to recently approved plans for expansions of the Urban Growth Boundary in Hillsboro and high-density infill development within existing station areas along the Blue Line. The Westside Service Enhancement Plan identified an extension of the MAX Red Line as one of many measures to improve service to this growing part of the region, in particular because of the need to connect the high-tech industries there with the PDX Airport via transit.

The MAX Red Line presently operates along the only two single-track sections in the MAX system. The length of each single-track section is long enough that a delayed Red Line train in one direction can delay a Red Line train in another direction by up to 2 minutes. In portions of the system where the Red Line and Blue Line operate on the same tracks, conflicts between Red Line and Blue Line trains have previously been kept to a minimum due to a simplified schedule with greater scheduling flexibility such that 2-minute delays on one line would not impact another. With the addition of the Green Line at the Gateway TC and the Yellow Line at the Rose Quarter TC, these single 2-minute delays now impact other lines in the system. Specifically, a delayed Red Line train entering the Gateway TC can result in a 3-minute delay to Green and Blue Line trains due to the track crossing of inbound Red Line trains with outbound Blue and Green trains. Delays to any of the westbound Blue, Red, or Green Line trains can then cause delays to Yellow Line trains crossing the Steel Bridge, where trains cross the Willamette River every 2 to 3 minutes in peak periods in each direction. Thus, the Red Line single-track sections significantly impact the reliability of the entire MAX system.

The purpose of the Red Line Extension and Reliability Improvements Project is to accomplish the following:

- Increase transit capacity and frequency between key regional employment centers and the Portland Central City and PDX Airport
- Improve MAX system on-time performance
- Support growing transportation demands of future development, population, and employment growth expected in the westside

The project is needed to:

- Accommodate increased MAX service with additional vehicles and storage tracks
- Address MAX system on-time performance issues at the points where delays are generated
- Address peak ridership demands on the westside now and in the future
- Create a more attractive alternative to driving alone and increase the transit mode share

Project Location

Physical improvements would be made at four locations:

- Portland International Airport, Portland, OR
- Gateway Green Park and Gateway TC, Portland, OR
- Fair Complex/Hillsboro Airport Station, Hillsboro, OR
- Ruby Junction Maintenance Facility, Gresham, OR

These four locations are physically separated (approximately 30 miles between the Gresham and Hillsboro locations), and their locations are shown in Figure I.A-1. In this analysis, each of these four areas is referred to as a Project area. The four Project areas are shown in Figures I.A-2 through I.A-5. Additional figures showing the project designs where the majority of the Project work would occur (at PDX Airport and Gateway) can be found in Attachment G.

Project Contacts

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II. NEPA Class of Action

Answer the following questions to determine the project’s potential class of action. If the answer to any of the questions in Section A is “YES”, contact the FTA Region 10 office to determine whether the project requires preparation of a NEPA environmental assessment (EA) or environmental impact statement (EIS).

A. Will the project significantly impact the natural, social and/or economic environment?

- YES (contact FTA Regional office)
- NO (continue)

A.1 Is the significance of the project’s social, economic or environmental impacts unknown?

- YES (contact FTA Regional office)
- NO (continue)

A.2 Is the project likely to require detailed evaluation of more than a few potential impacts?

- YES (contact FTA Regional office)
- NO (continue)

A.3 Is the project likely to generate intense public discussion, concern or controversy, even though it may be limited to a relatively small subset of the community?

YES (contact FTA Regional office)

NO (continue)

B. Does the project appear on the following list of Categorical Exclusions (CEs)?

The types of activities listed below describe actions which, when the corresponding conditions are met, are under usual circumstances categorically excluded from further NEPA analysis under [23 CFR 771.118\(c\)](#). Unusual circumstances may include, but are not limited to, the presence of wetlands, historic buildings and structures, parklands, or floodplains in the project area, or the potential for the project to impact other resources. (Descriptions of each type of activity, and corresponding conditions, are available [here](#); this worksheet simply lists the name of each exclusion.)

YES (If checked AND there are no special circumstances, check the applicable box and proceed to Section III.)

NO (continue to Section II. C)

[23 CFR 771.118\(c\)\(1-16\)](#)

- (1) Utility and Similar Appurtenance Action
- (2) Pedestrian or Bicycle Action
- (3) Environmental Mitigation or Stewardship Activity
- (4) Planning and Administrative Activity
- (5) Activities Promoting Transportation Safety, Security, Accessibility and Communication
- (6) Acquisition, Transfer of Real Property Interest
- (7) Acquisition, Rehab, Maintenance of Vehicles or Equipment
- (8) Maintenance, Rehab, Reconstruction of Facilities
- (9) Assembly or Construction of Facilities
- (10) Joint Development of Facilities
- (11) Emergency Recovery Actions
(Several conditions attach to this type of CE. We recommend you consult with FTA if you think this CE may apply to your action.)
- (12) Projects Entirely within the Existing Operational Right-of-Way.
- (13) Federally Funded Projects
(Must be less than \$5 million in federal funding, or having a total estimated cost of not more than \$30,000,000 and Federal funds comprising less than 15 percent of the total estimated project cost.)
- (14) Bridge Removal and Related Activities
- (15) Preventative Maintenance to Certain Culverts and Channels
- (16) Geotechnical and Similar Investigations

C. Does the project appear on the following list of potential documented Categorical Exclusions?

Projects that are categorical exclusions under [23 CFR 771.118\(d\)](#) require additional documentation demonstrating that the specific conditions or criteria for the CEs are satisfied and that significant effects will not result.

YES (Check correct box below and continue to Part III)

NO (Contact FTA Regional Office)

[23 CFR 771.118\(d\)\(1-8\)](#)

- (1) Modernization of a highway by resurfacing, restoring, rehabilitating, or reconstructing shoulders or auxiliary lanes.
- (2) Bridge replacement or the construction of grade separation to replace existing at-grade railroad crossings.
- (3) Acquisition of land for hardship or protective purposes. (NOTE: Hardship and protective buying will be permitted only for one or a limited number of parcels, and only where it will not limit the evaluation of alternatives (including alignments) for planned construction projects.
- (4) Acquisition of right-of-way. (NOTE: No project development on the acquired right-of-way may proceed until the NEPA process for such project development, including the consideration of alternatives, where appropriate, has been completed.)
- (5) Construction of bicycle facilities within existing transportation right-of-way.
- (6) Facility modernization through construction or replacement of existing components.
- (7) Minor realignment for rail safety purposes
- (8) Facility modernization/expansion outside existing ROW
- "Other" actions which meet the criteria for a CE in the CEQ regulations (40 CFR 1508.4) and will not result in significant environmental effects. Actions must not: induce significant impacts to planned growth or land use; require the relocation of significant numbers of people; have a significant impact on any natural, cultural, recreational, historic or other resource; cause significant air, noise, or water quality impacts; have significant impacts on travel patterns; or otherwise have significant environmental impacts (either individually or cumulatively).
-

III. Information Required for Documented Categorical Exclusions

If you checked “Yes” to any of the options in Part II.C, complete Section III.A and each relevant subject area of Sections B-AA. Depending on the project, some of the subject areas may not be applicable. In such cases, no discussion is needed. You may use documents prepared for other purposes (e.g., public meetings) if they are helpful. The list below is not all-inclusive. If your proposed project has the potential to cause impacts to resources which are not listed below, please provide supplemental information about those potential impacts.

A. Detailed Project Description

Describe the project and explain how it satisfies the purpose and need identified in Part I.

This section provides a detailed description of the proposed project, the MAX Red Line Extension and Reliability Improvements Project (“Red Line Extension Project” or “Project”), which was adopted and incorporated into the Regional Transportation Plan (RTP) by the Metro Council in December 2018 (Metro is the designated Metropolitan Planning Organization, or MPO, for the Portland region). The Red Line Extension Project would construct improvements in four Project areas: Portland International Airport (“PDX Airport”); Gateway TC and Gateway Green Park (“Gateway”); Fair Complex/Hillsboro Airport MAX Station (“Fair Complex”); and Ruby Junction Maintenance Facility (“Ruby Junction”).

The Project improvements would include double-tracking existing Red Line single-track sections near the PDX Airport terminus and Gateway TC to eliminate system reliability challenges stemming from the Red Line single-track segments. The Project would also extend Red Line service 10 stops farther west beyond its current terminus, utilizing existing MAX Blue Line tracks and stations, from the Beaverton TC to the Fair Complex station, and would construct an operator break facility at the Fair Complex station in an existing parking area. At Ruby Junction, work would include construction of new light rail storage tracks and walkways between tracks, as well as acquisition of additional rail vehicles to provide service along the extended Red Line. This section describes the improvements at each of the four Project Areas, details the anticipated construction of these improvements, and discusses how the improvements meet the Project’s purpose and need.

1. PDX Airport

The Project would construct approximately 4,300 feet of new trackway to convert an existing single-track operation to double-track. The Project would also construct a new multi-use path along the south side of NE Airport Way, along the new track. The trackway would include new track, overhead catenary wires and poles, signals and communications equipment, and fencing. The existing station platform would be replaced with a new platform to support the new double-track configuration and would include associated station platform amenities including shelters, trash cans, signage and security cameras.

2. Gateway

The Project would construct approximately 3,700 feet of one-way single track to provide continuous double track between Parkrose Station and Gateway TC. The new track would serve inbound Red Line trains and include a new 200-foot-long station platform approximately 500 feet north of the existing Red

Line platform, as well as an enhanced walkway connection with lighting and security features between the platforms. The new station platform would include typical station amenities such as shelters, benches, trash cans, fare equipment, signage and security cameras. The new trackway would include new trackwork, installation of overhead catenary wires and poles, and updated signal system and track switches to tie into the existing system.

A new light rail bridge connection from the Gateway TC, extending north over Interstate 84 (I-84) and Union Pacific Railroad (UPRR) track, would touch down in the southern portion of Gateway Green Park. The new bridge would pass under the existing NE Halsey Street overpass and would accommodate a single light rail track and a 14-foot paved multi-use pedestrian/bicycle path; which would function as an emergency vehicle connection to the south end of Gateway Green as well. The paved multi-use path would extend into the park and then terminate at the top of the slope in the park where it would connect with the planned gravel spine road.

A new southbound light rail track would extend from the proposed bridge to the north and would remain elevated on an embanked trackway supported by retaining walls adjacent to the I-205 Multi-Use Path. The track would cross over the I-205 Multi-Use Path on a short bridge before leaving the park and crossing over the existing light rail line (in a covered box) on the west side of the park. After crossing over the existing track, the new southbound track would tie into the existing southbound track west of the park. A segment of the existing I-205 Multi-Use Path would be slightly realigned to allow for a short crossing under the new southbound track.

The vast majority of permanent improvements would be located within existing transportation right-of-way (ODOT, TriMet, PBOT, and UPRR) but would also include a partial acquisition and modifications to a surface parking lot at the Providence Gateway Medical Plaza. The Project would also acquire approximately 0.69 acre of the 25-acre Gateway Green Park.

3. Fair Complex

The Project would extend Red Line service to 10 existing stations farther west on the existing Blue Line tracks. At the Fair Complex station, the project would require modifications to the existing trackway to support regular use of an existing pocket track as a light rail vehicle layover for Red Line trains, and it would construct a new operator break facility (less than 1,000 square feet in size) on TriMet property adjacent to the station. The Project would replace switches, modify signals and communication equipment, and install a new paved pathway with handrail and lighting for operators to access the operator break facility. The operator break facility would include associated site work and utilities. All work would be done within the existing TriMet right-of-way or on TriMet Property.

4. Ruby Junction

The Project would partially demolish an existing TriMet storage building and construct approximately 800 linear feet of new storage tracks and paved walkways between these tracks at the existing Ruby Junction Maintenance facility in Gresham. The new storage tracks would include modifications to existing switches, signals, and communication equipment to tie into the existing system, and installation of additional overhead catenary wires and poles. The additional storage tracks would provide space for additional light rail vehicles that would be acquired by the Project to operate the extended service. All work would be within the existing TriMet right-of-way or on TriMet property.

5. Other Related Projects

Several projects within or adjoining the Project areas are expected to be constructed before the Red Line Extension Project:

- PDX Airport has two projects nearing construction that adjoin the Red Line Extension Project area. As part of its PACR (Parking Additions and Consolidated Rental Car Facility) project, the Port of Portland (the PDX Airport owner and operator) will realign NE Airport Way to the north. The Airport is also planning to redevelop its existing Concourse A and B areas as part of a larger build-out of the Airport Master Plan. Construction of both of these projects is anticipated to be complete or nearing completion at the start of construction of the Red Line Extension Project as both these projects are necessary to allow for platform and rail construction associated with the Red Line Extension Project. Therefore, it is not expected that major construction activities would overlap with construction of the Red Line Extension Project, and construction schedules would be coordinated between TriMet and the Port of Portland.
- The City of Portland Bureau of Parks and Recreation (Portland Parks) and the Bureau of Transportation (PBOT) are making a number of active transportation and recreation improvements in the Gateway Green Park area. Future improvements planned as part of the Gateway Green Master Plan will add to and improve the existing mountain biking facilities and will also include extensive planting and habitat restoration, site grading and earthwork, construction of entry plazas, natural play features, additional trail features, and new utility services for the park. To facilitate construction, Portland Parks and PBOT will build an access road, extending from the west under I-205 to the south and east side of Gateway Green. It is anticipated that construction will begin in 2019 or 2020, prior to construction of the Red Line Extension Project, and that the access road would be used for construction access for the Red Line Extension Project.
- The Tillamook-Holladay-Oregon-Pacific (T-HOP) Multi-Use Path is a planned bicycle and pedestrian connection that would extend through the Gateway area from east to west. This path would provide a major new link in the non-automotive transportation network in the Gateway area, allowing safe connections across I-205 to the I-205 Multi-Use Path, and by way of the I-205 path, to transit resources at the Gateway TC and to medical office and retail stores in the vicinity of the Gateway TC. The T-HOP is not expected to be open to the public prior to the construction of the Red Line Extension Project.

6. Meeting the Project's Purpose and Need

The following describes the Purpose and Need for the Red Line Extension Project:

- The Project would make necessary system upgrades that would allow TriMet to provide a 76 percent increase in MAX service at 10 stations west of the Beaverton TC.
- The Project would provide a one-seat ride connection between high tech regional employment centers and the PDX Airport.
- The Project would directly support the extended service by purchasing eight additional vehicles, providing the necessary facilities at the new terminus for operator layovers and vehicle turnarounds (Fair Complex), and installing storage tracks for the additional vehicles (Ruby Junction).

- The Project would improve transit travel times and reliability systemwide by eliminating Red Line single-track sections that are operational bottlenecks and by extending service to the Fair Complex station. A modeling study found that eliminating single-track sections and extending service would reduce systemwide MAX delays by approximately 25 percent: more than 2 hours per 10,000 miles (an average weekday has approximately 14,000 miles). MAX system reliability would increase by nearly 5 percentage points to approximately 90 percent on-time performance.
- The Project would generate approximately 16,800 additional average weekday trips on the extended MAX Red Line and about 6,700 new average weekday transit system trips by 2035. The anticipated increase in system transit trips is due to the decreased wait times at those 10 stations for service to downtown Portland (and vice versa), the elimination of forced transfers for Red Line riders who need to travel west of the Beaverton TC, and increased service reliability throughout the system.

7. Construction Activities

The Red Line Extension and Reliability Improvements Project would be primarily constructed in the public right-of-way in phases to minimize disruption. Construction could last up to 2 years, but construction activities would not occur in the same area over that entire duration. The final construction staging details and sequences of station improvements would be determined during the Final Design phase. Construction activities would include utility relocation, site preparation and grading for construction staging and laydown areas, building structures, and installing new track.

Utility Relocations

Utility relocation activities would consist of moving any utilities that would be in conflict with the construction of the Red Line Project. Utility relocation could include overhead utilities such as power, cable, and telephone lines and underground utilities such as water, sewer, storm sewer, and gas lines. Utility relocation would be performed by the affected utility or service provider, in close coordination with TriMet. In general, overhead utilities can be relocated in a period of one or several days with some short-term traffic delays or detours. Relocating underground utilities may include stormwater, sanitary sewer, and power utilities at Gateway and PDX Airport. Designs for larger utility connections and relocations are included in the Project design and will be refined during Final Design. To avoid impacting smaller underground utilities, TriMet will field-verify the location of all underground utilities prior to beginning construction and coordinate necessary relocations with the utility provider.

Site Preparation

Site preparation activities would occur at each of the Project areas but would vary greatly in intensity of work. For example, at PDX Airport, proposed construction staging and laydown areas are largely paved and would not require significant grading or excavation. Preparing the areas near the trackway for installation of the double-track sections may involve installing work zone protection within or adjacent to Airport Way and Air Cargo Road; protection could include Jersey barriers, construction fencing, temporary traffic control and access gates.

At Gateway, developing construction staging and laydown areas would require clearing vegetation, excavating and grading to create level surfaces, stockpiling excess soil, and constructing new access roads for equipment circulation within the work area. Site preparation would also include installing construction

fencing and gates to control access to the construction site, TriMet tracks, and ODOT or local roadways. These activities would occur in both ODOT right-of-way and Gateway Green Park.

At the Fair Complex station, the existing parking lot would be used for construction material laydown and equipment storage, and no grading is anticipated. At Ruby Junction, vacant property already owned by TriMet and presently used as a materials storage area would be used for construction material laydown and equipment storage. Site grading would only be required to construct the track bed for the additional storage tracks.

Structures

PDX Airport

The existing MAX passenger platform at PDX Airport would be reconstructed to align with the new double-track section and multi-use path connection. Construction activities would involve complete demolition of the existing platform and installation of new formwork, installation of systems underground conduit, and placement of concrete for the new platform. Platform finishing activities would include installation of new or relocated station amenities such as shelters, signage, and other custom appurtenances.

Gateway

At Gateway, construction of the embanked section, viaduct, and new light rail platform would require grading and construction of the base for the trackway, using a combination of engineered earthen foundations and retained fill sections. Depending on the findings of future geotechnical investigations, the embanked section may require importing structurally sound fill. The installation of mechanically stabilized earth (MSE) or concrete walls would be required for any retained fill sections.

Construction of the bridge over I-84 would include drilling large-diameter shafts for the bridge piers, installing forms, pouring concrete for the piers, abutments, and bridge sections, and lifting pre-cast girder sections. Construction of these bridge sections may result in temporary lane closures on I-84.

The new station platform construction activities at Gateway would include excavation, installation of formwork, drainage improvements, and pouring concrete for the platform. Platform finishing activities would include installing station platform surface treatment, electrical and communications wiring, and shelters and other station amenities. Piles used during temporary construction may require pile driving or vibratory sheet pile installation.

Fair Complex

At the Fair Complex station, the Project would construct a new operator break room structure, install utilities and lighting needed for the building, and install a walkway with handrails.

Ruby Junction

No structures are proposed at Ruby Junction, but one existing building, presently used for maintenance and storage, would be partially demolished to accommodate the storage tracks. The building would be reduced in size, and the southern portion of the building would be reconstructed. This building is of modern construction (built in 1979) and is therefore not considered to be historic. Paved paths would be installed between the storage tracks for operator and TriMet staff access.

Trackwork

Construction at PDX Airport would require installation of new trackway and drainage for the new double track and require horizontal shifts of existing single-track sections as well as a new crossover at the station area and pocket track near 82nd. The crossing of NE Air Cargo Road by the light rail tracks and multi-use path may also require adjusting the location of existing crossing gates, signs and signals.

At Gateway, new track would tie into existing track at the north end of the transit center and be installed on the new bridge over I-84, and on elevated viaduct and embanked sections, tying into existing double track south of the I-205 LRT underpass. Construction at Fair Complex would require installation of new powered switches and other trackwork within the existing light rail right-of-way. At Ruby Junction, new switches would be installed on the existing site, as well as storage tracks for eight additional light rail vehicles.

B. Location and Zoning

Attach a map identifying the project's location and surrounding land uses. Note any critical resource areas (historic, cultural or environmental) or sensitive noise or vibration receptors (schools, hospitals, churches, residences, etc.). Briefly describe the project area's zoning and indicate whether the proposed project is consistent with it. Briefly describe the community (geographic, demographic, economic and population characteristics) in the project vicinity.

For each of the four Project areas, existing land uses, and planned land uses within the adopted comprehensive land use plans of the Cities of Portland, Hillsboro, and Gresham are shown in the attached Figures III.B-1 to III.B-3. The Portland, Hillsboro, and Gresham zoning designations around the Project areas are illustrated in the attached Figures III.B-4 to III.B-6.

1. Existing Land Uses

PDX Airport

The PDX Airport Project area is entirely within the City of Portland and is dominated by transportation uses. The airport passenger terminal is on the western end of the Project area; airport roadway, commercial air cargo and postal uses are in the central portion; and adjacent warehousing and distribution businesses, including loading and parking areas and access roadways, comprise the eastern portion. Several hotels are near the Project area. The entire Project area is within the Airport Subdistrict of the Portland International Airport Plan District in the Portland Comprehensive Plan, and the area is part of a larger area designated as Industrial Sanctuary south of the Columbia River and north of Lombard Street. The zoning is General Industrial (IG2).

Gateway

The Gateway Project area is entirely within the City Portland and is at the convergence of multiple transportation facilities, including the interchange of I-84 and I-205; a network of TriMet light rail lines for Red, Green, and Blue Line service; the NE Halsey Street overpass; the I-205 Multi-Use Path; and a single UPRR track. At the north end of the Gateway Project area, Gateway Green Park carries a zoning and Comprehensive Plan designation of Open Space (OS), as does a small area between I-84 and Gateway TC. The existing light rail track and the adjacent I-205 right-of-way is single-dwelling residential (R7). The portion of the Project area between I-84 and NE Halsey Street is zoned as General Industrial 2 (IG2). The

area surrounding Gateway TC and the nearby medical centers is zoned as Central Commercial (CX) and falls within the Gateway Plan District.

Key community features in the vicinity of Gateway are shown in Figure III.B-7 and include the following:

- Transportation facilities – I-205 and I-84 right-of-way, passenger and freight railroads, Gateway TC and park-and-ride, and the I-205 Multi-Use Path
- Gateway Green Park – between I-205 and I-84 right-of-way, includes newly constructed mountain biking trails
- Medical offices – Providence Gateway Medical Plaza and The Oregon Clinic

In the vicinity of Gateway Green Park and the Gateway TC, land uses include a large commercial grocery shopping center (Fred Meyer), churches, schools, and a mix of residential uses. These land uses are all over 500 feet away from the Gateway Project area.

Fair Complex

The Fair Complex Project area is within the City of Hillsboro and carries a Comprehensive Plan designation of Station Community Planning Area, and the area directly south of the station is designated as Low Density Residential (three to seven units per acre). The zoning for the Project area is Planned Unit Development (PUD) with Single Family Residential (SF-7) south of the station. Key land uses in the vicinity the Project area include the station itself (and associated surface park-and-ride), low-density residential to the south and east, the Fairgrounds Sports Complex (a large outdoor recreation area with ball fields and playgrounds) to the west, and the Washington County Fairgrounds to the north.

Ruby Junction

The Ruby Junction Project area is within the City of Gresham and carries a Comprehensive Plan designation of Moderate Density Residential (24 units per acre). All parcels surrounding the Ruby Junction Maintenance Facility carry the same comprehensive plan designation. The area is largely industrial or resource-based, with many smaller parcels for smaller scale light industrial work, or parcels storing equipment and vehicles. To the west of the maintenance facility, there is a gravel and sand mining operation. The current zoning for the area surrounding the Ruby Junction Maintenance Facility and all adjoining parcels is Heavy Industrial, which more closely matches existing land uses (compared to the Comprehensive Plan designation).

Existing Land Uses Summary

No changes to zoning or comprehensive plan land use designations in Portland, Hillsboro, or Gresham would be required with the Red Line Extension Project. The more reliable systemwide service and additional light rail service (in Hillsboro) would support the land uses identified in the zoning designations and adopted comprehensive land use plans for existing station areas served by the Project. There are no critical resource areas (historic, cultural or environmental) in the Project areas. Noise- and vibration-sensitive land uses near the Project areas include the medical buildings at the Gateway TC and the residences near the Fair Complex station. No sensitive areas or resources are near the PDX Airport or Ruby Junction Project areas.

2. Demographic and Economic Characteristics

Table III.B-1 summarizes demographic and employment characteristics of the cities of Portland, Gresham and Hillsboro, as well as of the census tracts overlapping with or adjoining the Project areas. As shown in the table, the minority population characteristics of these census tracts, at approximately 28 percent, is slightly higher than the percentage of minority populations found in the Cities of Portland, Gresham, and Hillsboro. Individuals within these census tracts are also more likely to be unemployed and from low-income households. See Section III.G, Environmental Justice, for more detailed information on minority and low-income residents near the Project areas and an evaluation of effects on these populations.

Table III.B-1: Demographics: Portland, Hillsboro, and Metropolitan Planning Area Demographics

Geographic Area	Total Population	Number of Households	Minority Population ^a		Low-Income Households ^b		Employment ^c	
			Number	Percent	Number	Percent	Number	Percent
City of Portland	620,589	132,894	138,179	22%	31,917	24%	359,848	70%
City of Gresham	110,042	25,952	24,226	22%	8,638	33%	55,735	65%
City of Hillsboro	100,462	25,072	26,325	26%	5,543	22%	54,543	70%
Census Tracts within Project Areas	38,418	8,397	10,832	28%	2,659	32%	19,746	64%

a. Minority is defined as all non-white, non-Hispanic members of the population

b. Low income households are defined as those with a household income below 200% of poverty line for the region

c. Defined as employed individuals 16 years of age or over

Source: 2016 American Community Survey – US Census

C. Transportation

Describe potential traffic and parking impacts, including whether the existing roadways have adequate capacity to handle increased bus or other vehicular traffic. Include a map or diagram if the project will modify existing roadway configurations. Describe connectivity to other transportation facilities and modes, and coordination with relevant agencies.

This discussion addresses the Project’s projected effects on transportation operations once the Project is completed. For additional information about Project effects on transportation during construction, see Section III.S.

1. Transit Facilities and Operations

The Red Line Extension Project would make necessary system upgrades that would allow TriMet to provide a 76 percent increase in MAX service at 10 stations west of the Beaverton TC, improve travel time on the inbound Red Line, and improve reliability for the entire MAX system. This service increase is expected to generate approximately 16,800 additional average weekday trips on the MAX Red Line and about 6,700 new average weekday transit system trips by 2035. The anticipated increase in system transit trips is due to the decreased wait times at those 10 stations for service to downtown Portland (and vice versa), and the elimination of forced transfers for Red Line riders who need to travel west of the Beaverton TC, and increased service reliability throughout the system.

At the Gateway TC, a new station platform for inbound Red Line trains approximately 500 feet north of the existing Red Line platform would increase walking distance for some transfer activity. A survey of transit riders waiting to transfer at the Gateway TC found that approximately 11 percent of all station activity could be impacted by a longer walk, but most of the riders (transfers between the Red Line and other MAX lines) could be accommodated on the same platform at the next station (NE 82nd Avenue) with some potential for out-of-direction travel. Some transit riders waiting for an inbound MAX line to downtown Portland and shared stations in between would experience a decrease in service frequency (four fewer trains per hour) due to the separate platform for the MAX Red Line 500 feet to the north of the existing platform. This decrease in service frequency translates into 1 to 2.5 minutes in additional wait time, on average, in the peak and off-peak periods, respectively. However, real-time arrival displays at station platforms and personal phone devices can be used by transit users to predict the next arriving MAX train and platform location.

The Project includes the purchase of eight additional light rail vehicles to support the increased service, as well as the construction of additional tracks at Ruby Junction for storage. The marginal increase of new vehicles does not require any increase in service bays or other new maintenance facilities.

2. Traffic

The Red Line Extension Project does not introduce any new at-grade crossings with vehicular road traffic. One gated crossing on NE Air Cargo Road would be improved with a second track which would allow more than one train to pass in each direction. Presently, only one train can cross the gate at a time in any direction, which requires more frequent gate closures. Adding a second track at this crossing would result in a small reduction in delays to vehicles waiting to cross the light rail tracks.

Access to buildings along NE Cargo Road is expected to remain unaffected, including the warehouse/distribution businesses and US Post Office facility. However, NE Air Cargo Road would be reconstructed southwest of and immediately adjacent to its current location to accommodate the additional track. This minor relocation will not affect traffic conditions.

Additional trains operating on the track extension between Beaverton TC and Fair Complex would use existing signal infrastructure at at-grade crossings. The increased service would result in more traffic interruptions from gates closing. The increase in traffic interruptions would occur primarily during the off-peak hours and traffic impacts would be minor. The original Westside light rail expansion mitigated traffic impacts at 185th Avenue based on projected traffic volumes with an at-grade improvement to an adjacent intersection. The City of Hillsboro had identified a future project to grade separate the roadway crossing following increases in traffic volumes at a later date but has not done so yet. TriMet has been collaborating with the City of Hillsboro traffic engineers to consider City-initiated modifications to signal operations to improve traffic flows on 185th Avenue near the light rail crossing without negatively affecting light rail service in advance of the City's desire to grade-separate the roadway.

The proposed increase in light rail service is consistent with local and regional plans that call for improving transit accessibility and frequency as one of the region's primary tools for reducing greenhouse gas emissions (see Metro's 2014 Climate Smart Strategy, adopted by the Metro Council), which was mandated by the Oregon State Legislature in House Bill 2186, enacted in 2009.

3. Parking

At PDX Airport, the tenant lot for the three buildings along NE Air Cargo Road would be reconfigured by moving the first row of parking spaces adjacent to and perpendicular with the relocated Air Cargo Road. At the request of the Port, the entire parking area would be restriped to allow for more flexible use of the space by the tenants for parking and/or additional truck maneuvering space. Overall, more parking spaces would be provided than currently exist. No on-street parking exists in this area.

In the Gateway Project area, the Red Line Extension Project would reconfigure the off-street parking areas at both the Providence Gateway Medical Plaza and the TriMet Park and Ride garage to add landscaped parking medians (to meet current landscape code) and to accommodate new trackway and landscaped pathways between the existing and new light rail platforms. Based on the present design, 31 spaces would be removed (4 private spaces from Providence Medical, and 27 park and ride spaces from the TriMet surface lot). No on-street parking would be affected. This reduction in parking spaces will be refined during Final Design and is negligible in relation to existing parking supply around these facilities (approximately 4 percent of the near 700 public spaces at Gateway TC).

4. Pedestrian and Bicycle Facilities

PDX Airport

The Red Line Extension Project would construct approximately 4,300 linear feet of new multi-use path at the PDX Airport. As currently planned, the new multi-use path would connect to the arrivals level of the airport in the same area as the proposed platform at the Airport terminus of the light rail line. The new multi-use path would remain adjacent to the north side of light rail track until reaching the NE Air Cargo Road crossing, where the multi-use path would cross to the south side of the track. The current crossing would be reconfigured to provide a safe crossing, separated from the vehicle turn lane. East of the NE Air Cargo Road crossing, the new multi-use path would run between the new track and the newly relocated NE Air Cargo Road. At the eastern limit of the Project area, the path would terminate. The Port intends to extend the pathway from this point, connecting to existing and planned bicycle and pedestrian facilities leading east toward NE 82nd Avenue.

Gateway

At Gateway, the Project would add approximately 1,200 linear feet of new multi-use path extending from the current transit center platforms to the new platform and continuing on the bridge over I-84, thereby creating a new connection into Gateway Green Park for non-motorized transportation. The new connection would meet ADA requirements by incorporating a series of ramps and landings similar to other pathways in the region (see attachment H for more information on this ADA accessible pathway). This path would connect to the larger trail network that currently exists and is being expanded in Gateway Green Park. The Project would also realign a short (less than 300-foot) segment of the I-205 Multi-Use Path within Gateway Green Park to ensure a short crossing under the new light rail line.

5. Conclusions

The Red Line Extension Project would provide a net benefit to transit users in the Portland area by extending direct service to PDX Airport and increasing service frequency at 10 MAX stations, reducing travel time for inbound Red Line trains by approximately 1.4 minutes (80 seconds), and improving MAX service reliability with the elimination of single-track sections on the Red Line. Although the Project could result in marginal increases in wait and transfer times for some riders at Gateway TC, those impacts would

be offset by the additional service and improved reliability for the entire MAX system, which would improve transit service for most of those impacted trips that include transfers between MAX lines at Gateway. Additionally, access and transportation options for non-motorized (bicycle and pedestrian) users would be improved with the Project at PDX Airport and at Gateway Green Park.

D. Aesthetics

Will the project have an adverse effect on a scenic vista?

- No
- Yes, describe

The Red Line Extension Project would not adversely affect any scenic vistas, because it would not construct any new above-ground structures within the vicinity of designated scenic corridors or other scenic resources, as designated by the Cities of Hillsboro, Portland, or Gresham. The only above-ground structures proposed for the Project are an operator break facility at Fair Complex, the light rail bridge over I-84, and the track overcrossing at Gateway Green Park. The bridge and track overcrossing are located in an area already characterized by elevated transportation facilities. The bridge would cross over I-84 but would cross under the NE Halsey Street overpass. Therefore, no scenic vistas would be affected.

Will the project substantially degrade the existing visual character or quality of the site and its surroundings?

- No
- Yes, describe

The new features that would be added to the visual environment with the Red Line Extension Project are generally already found in each of the Project areas, including station platforms and platform amenities, sidewalks and railings, signage, lighting, and the light rail bridge at Gateway. These features are part of the transportation character of the Project areas and would not degrade the existing visual character of these areas. The operator break facility at Fair Complex would be a new visual element, but would be a small single-story building, which would be consistent with other small restroom structures at the nearby Fairgrounds Sports Complex and would not visually conflict with the visual environment of single-family homes south of the station.

Will the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

- No
- Yes, describe

New exterior lighting would be associated with new exterior walkways, station platforms, and building entrances. All new exterior lighting would be focused downward, and the lighting would be installed in locations of significant existing ambient lighting, such as the Fair Complex park-and-ride, the I-205 and I-84 interchange, and PDX Airport.

E. Air Quality

Does the project have the potential to impact air quality?

- No

Yes, describe

The Red Line Extension Project is expected to provide a minor improvement to air quality by replacing approximately 27,500 to 36,900 vehicle miles travelled (VMT) per average weekday (2016 and 2035 estimates, respectively, based on internal modeling) with electrically powered light rail public transportation. Additional measures to minimize or avoid construction impacts are identified in Section III.X – Mitigation Measures.

Is the project located in an EPA-designated non-attainment or maintenance area?

No

Yes, indicate the criteria pollutant and contact FTA to determine if a hot spot analysis is necessary.

Carbon Monoxide (CO)

Ozone (O₃)

Particulate Matter (PM₁₀ or PM_{2.5})

On October 2, 2017 the Portland Metropolitan Area was determined to be in full attainment for CO, which was the only outstanding federally regulated air quality pollutant. The Portland Metropolitan Area is now in full attainment for all federally regulated air quality pollutants.

F. Coastal Zone

Is the proposed project located in a designated coastal zone management area?

No

Yes, describe coordination with the State regarding consistency with the coastal zone management plan and attach the State finding, if available.

None of the Red Line Extension Project areas is located in a designated coastal zone management area.

G. Environmental Justice

Determine the presence of minority and low-income populations (business owners, land owners, and residents) within about a quarter-mile of the project area. Indicate whether the project will have disproportionately high and adverse impacts on minority or low-income populations. Describe any potential adverse effects. Describe outreach efforts targeted specifically at minority or low-income populations. Guidance is [here](#).

TriMet prepared an Environmental Justice Memorandum, which is an attachment (Attachment A) to this document. This technical memorandum identifies environmental justice populations in and around the four Project areas and documents outreach activities that have been conducted (and will be in the future) to engage these populations. The analysis addresses the following environmental categories: transit; vehicle parking; property acquisition and displacement; and short-term construction impacts.

The evaluation of disproportionately high and adverse effects took into consideration adverse impacts to EJ populations and non-EJ populations, impact minimization and enhancement measures incorporated into the Project, and offsetting benefits of the Project to affected minority and low-income populations. The analysis concluded that there were not disproportionately high or adverse effects on minority or low-income populations.

H. Floodplains

Is the proposed project located within the Federal Emergency Management Agency (FEMA) 100 year floodplain?

No

Yes, describe potential impacts, indicate if the project will impact the base flood elevation, and include or link to the FEMA Flood Insurance Rate Map (FIRM) with the project location identified.

Figures III.H-1 through III.H-3 show the location of FEMA 100-year floodplains in relation to the four Project areas as well as local streams. As shown on the figures, there are no FEMA floodplains within or adjoining any of the four Project areas. Therefore, the Project would not result in any construction within a designated FEMA floodplain.

I. Hazardous Materials

Is there any known or potential contamination at the project site? This may include, but is not limited to, lead/asbestos in existing facilities or building materials; above or below ground storage tanks; or a history of industrial uses of the site.

No, describe steps taken to determine whether hazardous materials are present on the site.

Yes, note mitigation and clean-up measures that will be taken to remove hazardous materials from the project site. If the project includes property acquisition, identify if a Phase I Environmental Site Assessment for the land to be acquired has been completed and the results.

A review of available state and federal databases that report on hazardous material conditions was performed to develop Attachment B, *Hazardous Materials Technical Assessment*. The records search was used to determine if recognized environmental conditions (RECs) were present on-site or on properties adjacent to the Project areas, or if there were records of underground storage tanks (UST), leaking underground storage tanks (LUST), environmental site cleanup information contained in the Environmental Cleanup Site Information System (ECSIS), or Resource Conservation and Recovery Act (RCRA) generators.

There are no known hazardous material sites in or directly adjacent to the four Project areas. Potential hazardous materials sites could be present at the PDX Airport and Gateway Project areas based on the following:

- Historical records indicate a gas station may have been located within the PDX Airport Project area, along NE Airport Way. If the potential historical gas station had LUSTs, or if USTs were not removed at the time of demolition, impacted soils or tanks may need to be addressed at the time of construction. No further testing is recommended during this phase of the Project.
- A permitted land disposal (permittee: ODOT, permit terminated) was located within the Project area at the Gateway location. No information regarding this disposal or its contents are available in applicable databases. As the disposal required a permit, it is possible that the disposal site may contain hazardous or regulated materials. No further testing is recommended during this phase of the Project.

Each of the four Project areas had at least one potential hazardous materials site within a 350-foot Project buffer. After a review of records for each of these potential hazardous materials sites and their respective distances from the Project area and/or their regulatory status, it was found to be unlikely that these sites

would result in any impacts to the Red Line Extension Project. Overall, the potential to encounter hazardous materials or soils is considered to be low in the four Project areas, given that there are no known hazardous materials sites within or adjacent to these Project areas.

The only acquisition of private property anticipated for the Project is a small portion of the parking area at Providence Gateway Medical Plaza. A Phase 1 environmental site assessment would be conducted prior to construction for any property or portion of a property that was found to be required for Project construction.

Ground disturbance may also encounter contaminated soils or groundwater during construction. However, the potential is especially low at the four Project areas, given that there are no known hazardous materials sites within the right-of-way and that none of the proposed property acquisitions is associated with known sites. Additional measures to minimize or avoid construction impacts are identified in Section III.X – Mitigation Measures.

J. Navigable Waterways

Does the proposed project cross or have the potential to impact a navigable waterway?

No

Yes, describe potential impacts and any coordination with the US Coast Guard.

As shown in Figures III.H-1 through III.H-3, there are no streams or navigable waterway in or adjacent to the Project areas.

K. Noise and Vibration

Does the project have the potential to increase noise or vibration?

No

Yes, describe impact and provide map identifying sensitive receptors such as schools, hospitals, parks and residences. If the project will result in a change in noise and vibration sources, you must use FTA's "Transit Noise and Vibration Impact Assessment" methodology to determine impact.

TriMet performed a noise analysis of the Red Line Extension Project consistent with methods found in the 2018 FTA *Transit Noise and Vibration Assessment* (FTA 2018). Information used for this analysis included CAD files of the existing and planned light rail plan and profiles, track crossovers and special trackwork locations, detailed area mapping, and the locations of noise- and vibration-sensitive properties. A detailed *Noise and Vibration Technical Results Report* is included as Attachment C.

Operational Noise and Vibration

A detailed noise and vibration analysis was performed for any locations where changes in light rail noise or vibration levels would be predicted with the proposed improvements. There are no changes in noise or vibration levels predicted related to improvements at the PDX Airport, where new double tracking would be installed, therefore no operational analysis was conducted for this Project area.

At Gateway, the new track alignment and station platform would change the noise and vibration levels for nearby receptors during TriMet operations. Noise and vibration from the operations of this new track were modeled at the Oregon Clinic and the Providence Gateway Medical Plaza. Noise levels at both the Oregon Clinic and the Providence Gateway Medical Plaza are predicted to be below the FTA criteria. Due to an

existing jointed track at Gateway TC near the Oregon Clinic, current vibration levels at the exterior are close to exceeding the FTA vibration criteria. With the construction of the Project, continuously welded rail would be installed for new track connections at Gateway TC. This would ensure that vibration levels remain below FTA vibration criteria.

Upgrading the existing pocket tracks and adding an operator break facility at Fair Complex would not increase noise levels or change the maximum pass-by vibration level from light rail vehicles. No noise or vibration impacts are predicted at Ruby Junction with the installation of the new storage tracks, as there are no noise or vibration sensitive receivers in the area. Because there are no exceedances of the FTA criteria for operational noise or vibration in these areas, no noise or vibration mitigation is required.

Construction Noise and Vibration

Major noise-producing equipment for construction of the double track and other improvements would include heavy construction equipment such as backhoes and excavators, cement mixers, cranes, haul trucks, loaders, tractor-trailers and vibratory equipment. Other less notable noise-producing equipment expected to be used during this phase would be small backhoes, air compressors, forklifts, pumps, power plants, service trucks and utility trucks. Major vibration-producing activities during construction would include installation of piles, either using vibratory or impact driving methods. Pile installation is required at the Gateway Project area for construction of the new light rail platform and potentially in Gateway Green Park for temporary shoring for material stockpiling or for foundation construction. No pile driving is anticipated at PDX Airport or at Fair Complex.

To reduce noise and vibration effects during construction, all construction activities would be required to adhere to the appropriate jurisdiction's requirements (Portland, Hillsboro or Gresham), which typically limit construction times to daytime hours. Nighttime construction will likely occur and would require a noise variance from the appropriate jurisdiction. As described in Attachment C, there are no exceedances of the FTA criteria for construction noise or vibration in these areas, therefore no noise or vibration mitigation is required. However, additional measures to minimize or avoid construction noise are identified in both Attachment C and Section III.X – Mitigation.

PDX Airport Area

Maximum noise levels could reach 78 to 81 dBA at the nearest hotel (200 feet to the Sheraton Portland Airport Hotel). Due to the distance and shielding of sensitive receivers, no noise impacts are predicted for daytime work. No vibration impacts are predicted due to the distance of sensitive receivers and because high-vibration activities such as pile installation would not be required at PDX Airport.

Gateway Area

Maximum short-term noise levels at the nearest sensitive receivers could reach 81 to 84 dBA at the Oregon Clinic and 87 to 90 dBA at the Providence Gateway Medical Plaza. Increased noise levels would also be expected during the construction of the new bridge at residential areas along NE 101st Avenue and NE Bell Drive, located just north of NE Halsey Street. All construction would be required to meet the City of Portland Construction Noise Regulations and any variance requirements, and therefore no construction impacts are predicted.

Installation of piles may be required for the new light rail platform at Gateway in front of Providence Gateway Medical Plaza (e.g., driven soldier piles or vibratory installation of sheet piles). Although the

medical plaza is distant (175 feet at nearest), the soil in the area efficiently propagates vibration, and there is a potential for vibration levels at the medical plaza nearing FTA impact criteria during construction. Therefore, during Final Design, TriMet will conduct a test pile propagation test to determine vibration levels in the building. If levels are above or approaching the threshold, TriMet will instruct the contractor to use other construction methods for the platform and/or will restrict high-vibration pile installation activities to non-business hours at the medical plaza. In this manner, TriMet will avoid any vibration-related impacts at Providence Gateway Medical Plaza. No other sensitive receivers are near enough to be exposed to high levels of construction vibration.

Fair Complex

Maximum short-term noise levels could reach 87 to 90 dBA at the nearest residences. The residences would have some shielding from the existing noise wall, and construction at the Fair Complex is not predicted to cause any noise or vibration impacts for work performed during allowable construction hours (6:00 a.m. to 9:00 p.m. in Hillsboro). No night work is anticipated at Fair Complex.

Ruby Junction

No construction noise or vibration impacts are predicted near Ruby Junction due to the lack of any nearby sensitive land uses.

L. Prime and Unique Farmlands

Does the proposal involve the use of any prime or unique farmlands?

No

Yes, describe potential impacts and any coordination with the Soil Conservation Service of the U.S. Department of Agriculture.

The Project would be constructed and operate in a heavily urban/suburban environment and would not result in the conversion of any prime or unique farmlands.

M. Historic & Cultural Resources

Impacts to cultural, historic, or recreational properties may trigger Section 106 or tribal consultations or a Section 4(f) evaluation, requiring consideration of avoidance alternatives.

Does the project involve any ground disturbing activities?

No

Yes, provide the approximate maximum ground disturbance depth. Also provide information on previous disturbances or where ground disturbance will occur.

Are there any historic resources in the vicinity of the project?

No

Yes, attach photos of structures more than 45 years old that are within or adjacent to the project site and describe any direct or indirect impacts the project may cause

As documented in the *Cultural Resources Reconnaissance Report for the Red Line Project* (Attachment D), no historic properties (prehistoric or historic sites, structures, districts, or objects) would be adversely affected by the Project.

One significant historic structure was identified in the APE, the Oregon Railroad and Navigation Company track that runs under Gateway TC. The project would not affect the railroad and therefore would not require a 4(f) evaluation. Please see the *Cultural Resources Reconnaissance Report for the Red Line Project* for more information on resources that were evaluated but found to not be eligible historic resources.

No archaeological resources have been identified within the Areas of Potential Effect (APE) for the Project areas. No archaeological sites were previously recorded within the APEs for the four Project areas, and no archaeological resources were identified during a reconnaissance survey conducted for the Project. At PDX Airport, construction of the Project would result only in shallow or surficial ground disturbance. Most below-grade work would be less than 6 feet deep, including for utility connections, minor roadway and path shifts, and installation of new trackway and ballast. The deepest work would extend up to 15 feet below grade for the installation of new station platform foundation and for foundations for new overhead catenary system (OCS) poles, or signal poles and crossing gates along the new trackway. Archaeological monitoring of two proposed geotechnical bores is recommended at PDX Airport to provide more complete information in this area, but no impacts to cultural and historic resources are anticipated and no subsurface testing is recommended within the Project APE at the PDX Airport Project area.

Extensive grading in Gateway Green Park would be required to construct construction vehicle access and staging and stockpile areas—up to a 30-foot cut in some areas. Construction of the bridge and track overcrossing at Gateway could require deep foundation installation for bridge piers and/or for the station platform. Pier foundations for the light rail bridge over I-84 will be large-diameter drilled shafts, extending approximately 100 feet below current grade. Soldier or sheet piles installed to construct the new platform may extend up to 30 feet below grade. The APE for this Project area has been surveyed numerous times and has been extensively disturbed and filled as part of prior highway construction.

At Fair Complex most below-grade work would be less than 6 feet in depth for utility connections, construction of operator break facility and sidewalks, and installation of any necessary special trackwork. The deepest work would extend up to 15 feet below grade for any required relocations of foundations for OCS poles or signals. No impacts to cultural and historic resources are anticipated and no subsurface testing is recommended within the Project APE at Fair Complex.

At Ruby Junction, most below-grade work would be less than 6 feet in depth for utility connections, partial demolition of a TriMet warehouse building, and construction of new track turnouts and storage tracks. The deepest subsurface work would be for the installation of foundations for new OCS poles along the new trackway; the foundations would extend up to 15 feet below grade. No impacts to cultural and historic resources are anticipated and no subsurface testing is recommended within the Project APE at Ruby Junction.

An inadvertent discovery plan (IDP) has been prepared for the construction phase of the Project to provide protection measures if any previously unknown cultural or historic resources are encountered during construction. As documented in the IDP, should unanticipated archaeological resources be encountered during construction, all ground-disturbing activity near the find will be halted, and coordination and consultation will occur as required by state and federal laws. If evidence of human remains is encountered, all ground-disturbing activity in the vicinity will be halted immediately and provisions of state law followed. The IDP provides procedures and contact information and is attached to the *Cultural Resources*

Reconnaissance Report for the Red Line Project (Attachment D, to this document). Additional information on outreach to Native American tribal representatives is provided in Section III.AA.

Taken as a whole, no historic properties (prehistoric or historic sites, structures, districts, or objects) would be adversely affected by the Project, and therefore no impacts to Section 106 or Section 4(f) historic properties would occur with the Project. Attachments D and F provide detailed information about the Section 106 and Section 4(f) analyses and findings, as well as letters of concurrence from agencies with jurisdiction over these resources.

N. Biological

Are there any species located within the project vicinity that are listed as threatened or endangered under the Endangered Species Act? Determine this by obtaining lists of threatened and endangered species and critical habitat from the US Fish and Wildlife Service and the National Marine Fisheries Service.

The Red Line Extension Project areas are located in largely developed urban and suburban environments, and within and near extensive existing transportation facilities. Vegetation is sparse in the Project areas, except in the Gateway area, where there are undeveloped areas along the highway shoulders around I-84 and I-205, and undeveloped land within Gateway Green Park. These undeveloped areas are immediately adjacent to existing transportation facilities and consist largely of non-native grasses and other plants, with no nearby water resources.

Research was conducted using information from the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), and the Oregon Biodiversity Information Center (ORBIC) to determine if there is any potential for threatened or endangered species to exist within or near the Project areas. This analysis (included in Attachment E) concluded that there is no potential for the Project to affect any of the Endangered Species Act (ESA)-listed species, or to impact designated critical habitat or essential fish habitat (EFH).

The research included a search of the USFWS species in the Information, Planning, and Conservation System (IPaC), which determined that no designated critical habitat occurs in or near the Project area for ESA-protected species. None of the USFWS-listed species has the potential to occur in the specific Project areas because there is no suitable habitat. There are no streams in or near the Project areas that contain ESA-listed fish. Pollutant-generating impervious surface would not be increased, and stormwater treatment of impervious surfaces would not change. Therefore, no effects to essential fish habitat or threatened or endangered fish would occur.

Describe any critical habitat, essential fish habitat or other ecologically sensitive areas within or near the project area.

There is no critical habitat, essential fish habitat, or other ecologically sensitive areas within or near the four Project areas. Streaked horned lark habitat has been noted in the sparsely vegetated areas in the southwestern portion of the Portland International Airport, but suitable habitat is not located within the Project area.

O. Recreational

Is the project located in or adjacent to a park or recreation area?

No

Yes, provide information on potential impacts to the park or recreation area. Please also indicate if the park involved Land and Water Conservation Act funds (Section 6(f))

The Red Line Extension and Reliability Improvements Project would not adversely affect the activities, features, or attributes of Gateway Green Park, but would provide benefits to the park by helping to implement the Gateway Green Master Plan and by creating new permanent bicycle/pedestrian and emergency and maintenance access into the park. Permanent impacts would occur at Gateway Green Park, where a portion of the park would be permanently converted to transportation uses. Temporary construction impacts would be minimized such that the park could continue to provide the recreational opportunities it presently offers, though with modified access during construction.

TriMet has prepared a Section 4(f) analysis to evaluate potential impacts to the park (see Attachment F). Based on this analysis, FTA has determined that the Project would result in a *de minimis* permanent use of the park because the use would not adversely affect the recreational activities at the park or change any significant features or attributes of the park. FTA has also determined that temporary impacts to Gateway Green Park during construction fall under the Section 4(f) temporary occupancy exception because the construction activities within the property would be relatively short in duration, the work would temporarily occupy a small area within the approximately 25-acre park, and construction activities would not interfere with access to the recreation activities within the park. In agreement with Portland Parks and Recreation, TriMet has committed to restoring the temporary occupancy area to pre-construction conditions or better.

TriMet conducted outreach to stakeholders in the Gateway area beginning in the fall of 2017 to discuss the Project and its potential impacts to Gateway Green Park. As of January 2019, approximately 18 stakeholder meetings or committee discussions were held to discuss the project, in addition to general outreach through public open houses in the service district and a project-specific website.

Based on the Section 4(f) analysis conducted, the results of stakeholder outreach, and on TriMet commitments for the project, Portland Parks and Recreation has concurred on the FTA findings that the permanent use of the park is *de minimis* and the temporary occupancy is exempt (see letter of concurrence within Attachment F).

No Land and Water Conversation Act funds were used to acquire the land or for other improvements to the park and therefore it is not considered a Section 6(f) resource.

P. Seismic and Soils

Are there any unusual seismic or soil conditions in the project vicinity? If so, indicate on project map and describe the seismic standards to which the project will be designed.

No

Yes, describe

The Portland Metropolitan Area has historically been the most seismically active region in Oregon. In addition to risk associated with the Cascadia Subduction Zone, Portland is also home to several moderate-sized crustal faults, including the Oatfield Fault, the Portland Hills Fault, and the East Bank Fault.

The soils in the Gateway TC area are largely not of sufficient structural capacity to be used in embanked approaches to the new platform, the bridge over I-84, or the new track overcrossing (over the existing track and I-205 Multi-Use Path). These soils will be excavated where needed and replaced with engineered structural fill.

All elements of the Red Line Extension Project would be designed to meet applicable seismic standards including the most recent editions of the Oregon Structural Specialty Code, the ASCE 7 *Minimum Design Loads and Associated Criteria for Buildings and Other Structures* design standard, and *AASHTO LRFD Bridge Design Specifications*.

Q. Water Quality

Does the project have the potential to impact water quality, including during construction?

No

Yes, describe potential impacts and best management practices which will be in place.

The Red Line Extension Project areas are all located within heavily developed areas characterized by aviation uses, transportation corridors, and industrial areas within the Cities of Portland, Gresham, and Hillsboro. Stormwater runoff in these areas is presently captured and treated by existing stormwater collection and conveyance systems as required by law. Stormwater impacts related to the Red Line Extension Project would be addressed using the appropriate jurisdictions' stormwater management manuals.

Construction of the Red Line Extension Project is not expected to have any adverse effects to water resources. During construction, water quality best management practices (BMPs) would be incorporated to reduce sediment and pollutant levels in the stormwater runoff. A temporary erosion sediment control (TESC) plan, including sediment-control BMPs such as silt fences and sediment traps, would be used. A spill prevention control and countermeasure (SPCC) plan would also be implemented.

Will there be an increase in new impervious surface or restored pervious surface?

No

Yes, describe potential impacts and proposed treatment for stormwater runoff.

Within the PDX Airport Project area, the existing parking lot associated with the warehouse and distribution businesses would be reconfigured and a portion removed to subgrade and replaced with a section of Air Cargo Road, realigned to the south of its current location. The current alignment of Air Cargo Road would be removed to accommodate the second Red Line light rail track and adjacent multi-use path. The multi-use path will replace existing impervious surface. The second track would primarily be placed on ballast, thereby reducing the existing impervious surface area. This reduction in impervious surface coverage would reduce stormwater volumes and reduce the surface area that would be considered pollution generating.

A portion of the new multi-use path at PDX would be constructed in an area that is presently landscaped. While this may reduce pervious surface coverage in this area, the multi-use path would not permit the use of motor vehicles and the impervious surface associated with the paved path would not be considered to be pollution generating. Taken as a whole, there will be a decrease in impervious surface area in the PDX Project area and a reduction in the quantity of impervious surface that could contribute to water pollution.

Stormwater within this portion of the PDX Project area is currently collected and conveyed through a series of storm sewer pipes and stormwater ditches for approximately 1.7 miles before being discharged into the middle reach of the Columbia Slough. This portion of the slough is separated from the lower Columbia Slough by a levee and pump system. No increases in impervious surface runoff or changes in runoff water quality are anticipated in this stormwater capture and discharge system.

At Gateway TC, the new station platform and walkways would be impervious surface, as would the reconfigured parking areas. However, much of this work would occur within areas that are currently paved and, after construction, would include landscaped walkways and parking medians. Taken as a whole, there would be less than 100-square-foot of additional impervious surface at the Gateway TC. The new station platform and walkways would, by nature, exclude automobiles; these surfaces would be considered non-pollution generating. Therefore, there would be a reduction in the potential for runoff of polluted stormwater at Gateway TC.

In Gateway Green Park, the majority of the new light rail infrastructure would be built on ballasted track and, therefore, there would not be an increase in impervious surface or runoff. There would be some marginal additional impervious surface related to the realigned I-205 Multi-Use Path within Gateway Green Park.

Precipitation would sheetflow off impervious surfaces and would be retained and infiltrated in accordance with the design approaches in Metro's Green Street guidelines and the City of Portland 2016 Stormwater Management Manual (SWMM). Water from rainfall on the bridge over I-84 would also be collected and infiltrated into the ballast, further reducing runoff in the area. It is not anticipated that the small changes in the impervious surface on the site would result in any additional off-site runoff.

At the Fair Complex station, the Project would install pervious pavement for the walkway to the operator break room. The break room building itself, including a covered outdoor area, would add less than 1,000 square feet of impervious surface to the site. Stormwater runoff from the new roof and impervious areas would be collected and treated on-site by stormwater rain gardens installed as part of the Project.

At Ruby Junction, a building would be partially demolished and replaced with ballasted track, thereby removing approximately 2,300 square feet of impervious surfaces. Paved pedestrian walkways for TriMet staff would be installed between the new storage tracks, adding about 6,700 square feet of new impervious surface. TriMet engineers estimate that, overall, fewer than 4,500 square feet of impervious surface would be added at Ruby Junction as part of the Project. Any runoff from this new impervious surface would sheetflow into the pervious ballasted track areas, and it is not anticipated that this additional impervious surface would result in off-site runoff. All stormwater on the site would be addressed in accordance with the City of Gresham 2018 Stormwater Management Manual.

Is the project located in the vicinity of an EPA-designated sole source aquifer (SSA)?
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No
 Yes, provide the name of the aquifer which the project is located in and describe any potential impacts to the aquifer. Also include the approximate amount of new impervious surface created by the project. (May require completion of SSA worksheet.)

R. Wetlands

Does the proposal temporarily or permanently impact wetlands or require alterations to streams or waterways?

No
 Yes, describe potential impacts.

There are no mapped wetlands within the Project areas. The Project areas are located within heavily urban/suburbanized environments, primarily located within the existing transportation right-of-way or public easement, with little undeveloped land in or near the Project areas. The areas near Gateway that are presently undeveloped are on steep slopes that do not support wetlands.

S. Construction Impacts

Describe the construction plan and identify impacts due to construction noise, utility disruption, debris and spoil disposal, and staging areas. Address air and water quality impacts, safety and security issues, and disruptions to traffic and access to property.

Section III.A.7 provides a description of the anticipated construction activities at each Project area. The effects of project construction are addressed in each environmental topic discussion presented in the analysis in the prior sections. This section presents information specific to the transportation effects of the project during construction. Additional measures to minimize or avoid construction impacts are identified in Section III.X – Mitigation Measures.

Transportation

To allow for construction of the aerial structure over I-84 and the UPRR rail line at Gateway, temporary lane closures may be needed. If lane restrictions are needed, a Traffic Control Plan would be developed to address roadway and lane closures, including information on the location of any signed detour routes and haul routes. The Traffic Control Plan would need approval from TriMet, ODOT, and the City of Portland. A separate agreement regarding construction over the UPRR rail line will be established in coordination with Union Pacific to preserve their operations.

During construction at PDX Airport and Gateway, MAX light rail service may have to be temporarily closed and replaced by a bus bridge between stops. Based on preliminary engineering, it is anticipated that closures would be required for two separate construction activities at Gateway and that construction at PDX airport may require a longer bus bridge connection from another light rail station. Table III.U-1 provides a summary of the potential light rail closures.

Table III.S-1. Potential Light Rail Closures and Days Replaced by Bus Bridge

Location and Reason	Closure Length	Lines Affected
PDX Airport: Platform and track construction, track tie-in	90 days	Red Line

Gateway: Construction of light rail crossing box over existing light rail line	6-10 days	Red Line
Gateway: Transit center, bridge and track tie-ins	21 days	Red, Blue, Green Lines

Note: Closure length refers to a total duration. These closures could also be broken out over several shorter periods.

These light rail closures may temporarily increase travel times for riders on these lines, as they would require riders to off-board the light rail and transfer to a bus to continue their ride. Additionally, platforms may have to be closed and temporarily relocated, but transit service would still be provided to all existing station destinations, and Americans with Disabilities Act (ADA) access would still be available on all lines and boarding platforms. TriMet has extensive experience with communicating with riders of the dates and locations of temporary closures and helping riders understand the additional time their trips may require. With this communication to affected riders, minimal impacts are anticipated related to the temporary light rail closures and bus bridges.

Access to Gateway Green for bicycles and pedestrians during construction would continue to be taken via the I-205 Multi-Use Path. Access from the north via of the I-205 path would remain open continuously during construction. Access from the south via the I-205 path will also be typically open but on occasion may need to be closed to accommodate construction phasing activities nearby for the new LRT overpass of the I-205 path. Additionally, TriMet may need to close a short portion of the I-205 Multi-Use Path for one or two short-duration periods to place structures near and over the I-205 Multi-Use Path. A temporary path would be provided during these events to maintain continuity of the I-205 Multi-Use Path during Project construction (see Attachment F for additional information).

T. Cumulative and Indirect Impacts

Are cumulative and indirect impacts likely?

No

Yes, describe the reasonably foreseeable:

a) Cumulative impacts, which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes them. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time

Each of the Project locations is relatively small in size and distant from other Project locations. Section III.A.5 provides a list of other related projects in planning and construction phases at PDX Airport and Gateway. It is not anticipated that major construction phases of these projects would occur at the same time as construction of the Red Line Project; therefore, there would not be cumulative construction effects. As discussed in prior sections of this analysis, the Red Line Project is not anticipated to have significant adverse direct or indirect impacts. Project effects are dispersed geographically, and operational effects are unlikely to combine with the effects of other projects to result in any cumulative impacts.

b) Indirect impacts, which are caused by the action but are later in time or farther removed in distance, yet are still reasonably foreseeable. Indirect impacts may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air, water and other natural systems, including ecosystems.

Although improving reliable light rail service and predictability is anticipated to improve the user experience for MAX riders, it is not anticipated that these improvements would be of a magnitude to result in large-scale changes in travel modes. No indirect development or other growth is likely, and because no development is proposed outside of the existing right-of-way, it is not anticipated that there would be any significant adverse indirect effects related to the Project.

U. Property Acquisition

If property is to be acquired for the project, indicate whether acquisition will result in relocation of businesses or individuals.

Note: For acquisitions over \$500,000, FTA concurrence in the property’s valuation is also required.

The Red Line Extension Project would require the use of transportation right-of-way (TriMet, ODOT and Port of Portland property), a small section of the Gateway Green Park (owned and managed by City of Portland Parks and Recreation), and a small area of surface parking on one private property (Providence Gateway Medical Plaza). Although no land is being acquired at PDX airport, the second track will require expanding the existing TriMet light rail easement. No displacements or relocations of businesses or individuals would be required.

V. Energy

If the project includes the construction or reconstruction of a building, identify potential opportunities to conserve energy which could be employed. This includes building materials and techniques used for construction; special innovative conservation features; fuel use for heating, cooling and operations; and alternative renewable energy sources.

The Project would construct one new enclosed building for operators at Fair Complex. The new building would be designed to meet current State of Oregon energy conservation standards. The new station platforms and pedestrian connection would be fitted with energy-efficient LED (or equivalent) light fixtures and real-time arrival displays.

The electricity requirements to operate the extension are well within current system tolerances without diminished performance. No upgraded or additional traction power substations are required to support the operation of the extension.

W. Public Involvement

Describe public outreach efforts undertaken on behalf of the project. Indicate opportunities for public meetings (e.g. board meetings, open houses, special hearings). Indicate any significant concerns expressed by agencies or the public regarding the project.

TriMet’s Community Affairs staff has conducted public outreach on this project in a variety of venues, to meet the varying public interest needs. For property-specific impacts, TriMet has reached out to neighboring property owners and businesses in one-on-one meetings to share project proposals and learn about their values and needs. Information learned from these one-on-ones will help to inform design efforts and construction planning to minimize disruptions. For the general public and riders, TriMet has reached out to the public at open houses throughout the TriMet service district to explain the project proposals and gather input. These efforts included brochures in multiple languages and a website

dedicated to the project.¹ Additionally, riders boarding at Gateway TC were surveyed to better understand transfer patterns related to the Red Line.

TriMet has also attended meetings of neighborhood and business associations within the Gateway area, where the majority of the project construction will take place. More specialized outreach was conducted with regard to the project proposals on and adjacent to Gateway Green Park (see Section III.O and Attachment F for more information on the stakeholder outreach and public involvement related to Gateway Green). This included involving park officials and advocates early on in the development of project proposals to ensure only acceptable proposals were developed with no net harm to the park and its users and continued outreach as the design progresses. A neighborhood meeting will also be conducted in Hillsboro for neighbors surrounding the Fair Complex station improvements prior to land use reviews. Please see Attachment A for more details about public outreach to Environmental Justice populations.

Feedback through these venues included strong support for the project, especially the extension to Hillsboro and new Gateway Green Park access for users. Other feedback included interest in the security, urban design, wayfinding signage, and experience of the connection between the proposed inbound Red Line platform and the existing platforms at Gateway TC. Some members of the public also expressed interest in the coordination of the new platform design with TriMet's ongoing program to refurbish Blue Line stations. TriMet will continue to conduct outreach on project elements.

X. Mitigation Measures

Describe all measures to be taken to mitigate project impacts.

Construction of the Project would not have any adverse impacts requiring mitigation. The following measures would be used to further minimize impacts:

1. Construction Mitigation

TriMet will follow all relevant federal, state, and local regulations. Appropriate BMPs will be developed and implemented prior to construction for water quality, erosion, hazardous materials, and air quality. Complying with the relevant regulations and implementing BMPs will minimize construction impacts related to traffic, dust, noise, and light. The following measures would be implemented as part of the Project to avoid or minimize impacts during construction:

Displacements and Right-of Way

The construction of the Project would result in the acquisition of a portion of the Providence Gateway Medical Plaza parking lot. TriMet would provide property owners with monetary compensation in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Relocation Act) and FTA's Circular 5010.1D Grants Management. No businesses or persons would be displaced from the property.

Traffic and Property Access

Prior to construction, TriMet will finalize detailed construction plans in coordination with the Cities of Portland, Hillsboro, and Gresham, the Port of Portland and with ODOT during the Final Design and

¹ <https://trimet.org/redlineimprovements>

permitting phases of the Project. As discussed in Section III.S, a Traffic Control Plan would be developed as part of this planning and coordination if lane closures are required. During construction, the Project will comply with local regulations governing construction traffic control and construction truck routing. When access is provided through the construction zone, it will meet applicable federal, state and local regulations, including the ADA. TriMet or the contractor will provide advance notice signs prior to construction in areas where surface construction activities will affect access to surrounding businesses, and will provide detour, open for business, and other signage as appropriate. TriMet will provide a public involvement specialist as a contact person for citizens and businesses to present unresolved complaints about construction impacts to agency project management.

Air/Water Quality

Controlling construction-related exposed soil and fugitive dust emissions will require the following BMP actions, as appropriate:

- Spray exposed soil with water or other dust suppressant to reduce emissions of particulate matter during dry periods
- Use phased development to keep areas of disturbed soils to a minimum
- Use wind fencing when appropriate to reduce disturbance to soils
- Comply with the NPDES Construction Stormwater General Permit process, including developing a stormwater pollution prevention plan (SWPPP) and temporary erosion and sediment control plan
- Locate construction equipment and truck staging areas away from sensitive receptors as practical and in consideration of potential impacts on other resources
- Cover dirt, gravel, and debris piles as needed to reduce dust and wind-blown debris

Noise and Vibration

TriMet and its contractor(s) shall comply with all local ordinances regarding construction-related noise ordinances, permits, or variance conditions. Noise control for nighttime or daytime work could include the following measures, as necessary, to meet the required noise limits:

- Install construction site sound walls by noise-sensitive receivers
- During nighttime work, use smart backup alarms that automatically adjust or lower the alarm level or tone based on the background noise level
- Use low-noise emission equipment
- Implement noise-deadening measures for truck loading and operations
- Conduct monitoring and maintenance of equipment to meet noise limits
- Use lined or covered storage bins, conveyors and chutes with sound-deadening material
- Use acoustic enclosures, shields or shrouds for equipment and facilities
- Prohibit nighttime jack-hammering and impact pile-driving
- Minimize the use of generators or use quiet generators to power equipment

- Limit the use of public address systems

Measures to minimize short-term annoyance from construction vibration include the use of alternative methods with less vibration, such as drilled shafts in place of driven piles, or the use of static roller compactors rather than vibratory roller compactors. Activities with the potential for short-term annoyance could also be restricted to shorter periods and daytime hours, when vibrations and noise are less noticeable. Construction vibration specifications should limit construction vibration to a maximum of 0.5 in/sec at the foundation of structures adjacent to the alignment, with fragile or sensitive structures limited to 0.12 in/sec. The use of high-vibration construction equipment should be limited near sensitive receivers such as residences and the medical buildings, schools, and hospitals.

Hazardous Materials

Construction of the proposed Project would include disturbance of the subsurface which could result in contaminated soil and/or groundwater from an undocumented source being encountered. Consistent with TriMet standard practice, prior to construction, the contractor, in coordination with TriMet, would develop plans to address the proper handling and disposal of any hazardous materials found during construction. If undocumented hazardous materials or contaminated media are encountered, they would be transported and disposed of in accordance with federal, state, and local regulations.

Although no impacts are anticipated, BMPs will include contractors preparing project-specific and site-specific hazardous material management plans, health and safety plans, contaminated media management plans, and spill prevention, control, and countermeasures plans. In addition, the contractor will be required to develop and comply with the SWPPP.

Public Services and Utilities

TriMet will coordinate with public service providers before and during construction to maintain emergency access. TriMet will coordinate with utility providers and the public. Preconstruction measures will include ground penetrating radar, potholing, and survey to identify utility locations. TriMet will continue to work with utility providers to minimize any potential service interruptions and perform outreach to notify the public of planned or potential service interruptions and utility relocations.

Y. Other Federal Actions

Provide a list of other federal NEPA actions related to the proposed project or in the vicinity

- Powell Bus Garage Modernization DCE (FTA)
- Southwest Corridor Light Rail Project EIS (FTA)
- I-5/Rose Quarter Improvement Project EA (FHWA)
- Division Transit Project DCE (FTA)
- Portland International Center EA (FAA)
- Cascade Station/Portland International Center Plan Update (FAA)
- Portland Airport Parking Additions and Consolidated Rental Car Facility (PACR) DCE (FAA)
- Concourse B DCE (FAA)

Z. State and Local Policies and Ordinances

Is the project in compliance with all applicable state and local policies and ordinances?

No, describe noncompliance:

Yes

The Red Line Extension Project is consistent with the following Oregon statewide plans:

- Transportation Planning Rule
- Oregon Transportation Plan
- Oregon Public Transportation Plan
- Oregon Surface Transportation Program

The Red Line Extension Project is consistent with the following Metro regional plans:

- Regional Transportation Plan
- Regional Transportation Plan's financially constrained project list
- Regional High Capacity Transit System Plan
- 2040 Growth Concept
- Active Transportation Plan
- Climate Smart Strategy

The Red Line Extension Project is consistent with the following other regional and local plans, policies, and ordinances:

- TriMet's Service Enhancement Plans

AA. Related Federal and State/Local Actions

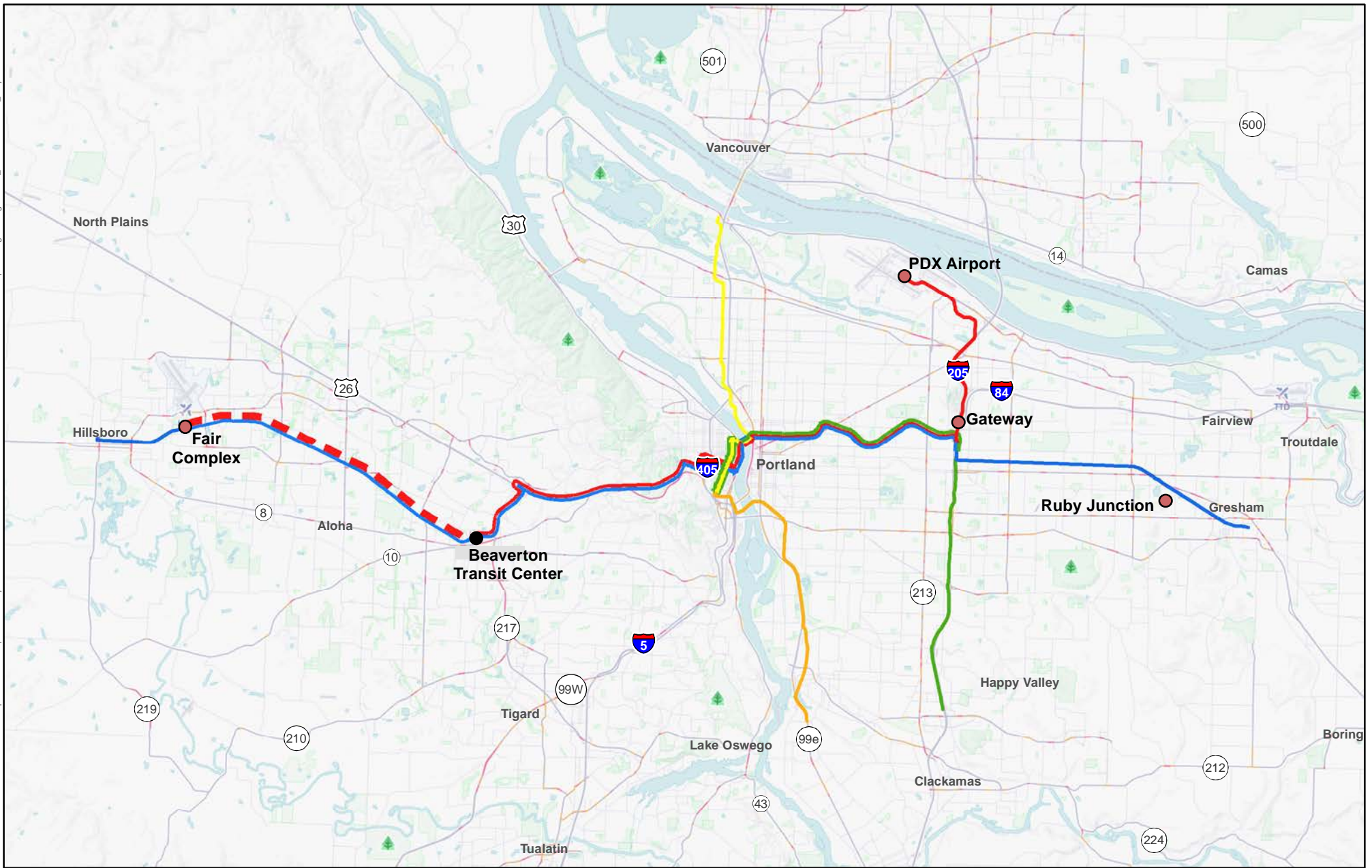
- Corps of Engineers Permit (Section 10, Section 404)
- Coast Guard Permit
- Coastal Zone Management Certification
- Critical Area Ordinance Permit
- ESA and EFH Consultation
- Floodplain Development Permit
- Forest Practice Act Permit
- Hydraulic Project Approval
- Local Building or Site Development Permits
- Local Clearing and Grubbing Permit
- National Historic Preservation Act-Section 106 consultation
- National Pollutant Discharge Elimination System General Construction Permit
- Shoreline Permit
- Solid Waste Discharge Permit
- Sole Source Aquifer Consultation
- Section 4(f) (Historic or Recreational Properties; Wildlife Refuges)
- Section 6(f) (Recreational Properties)
- Section 106 (Historic Properties)
- Stormwater Site Plan (SSP)
- Temporary Erosion and Sediment Control Plan (TESC)
- Water Rights Permit
- Water Quality Certification—Section 401
- Tribal Consultation or Permits (if any, describe below)
- Other

Others (describe as applicable): Amendment to the Airport Layout Plan

Letters of Consultation were sent to Native American tribal representatives in the fall of 2018 with a map of the preliminary APE. No responses were received.

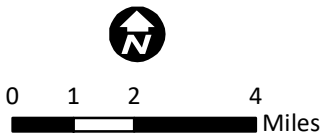
As part of ongoing consultation, the Cultural Resources Reconnaissance Report was sent on July 23, 2019 to Native American tribal representatives with a final APE and determination of effects. A response from James Gordon of the Cowlitz Indian Tribe was received on August 20, 2019 with suggested language to incorporate into the Inadvertent Discovery Plan (IDP). FTA and TriMet believe the comments have been already addressed in the draft IDP that was initially shared with the Tribe.

Date: 5/16/2019 Author: lnsfcha Path: \\parametrix.com\pmx\Portl\Projects\Clients\9544-TriMet\274-2544-069 MAX Red Line Extension\9544-TriMet\274-2544-069 MAX Red Line Extension\Figures\Figure I.A-1_RedLineExtension_ProjectAreas.mxd



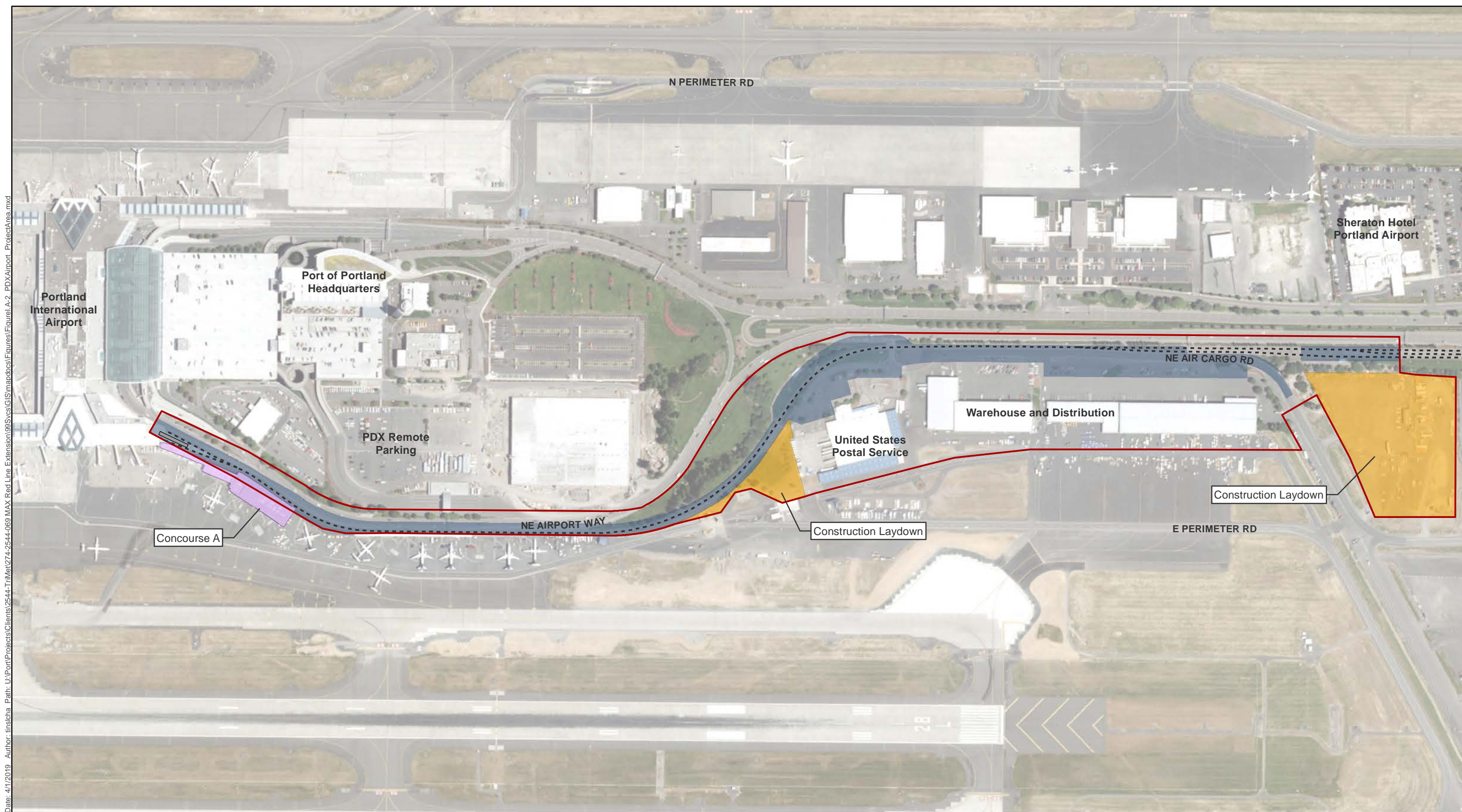
Source: TriMet, © Mapbox, © OpenStreetMap

Figure I.A-1
Project Areas

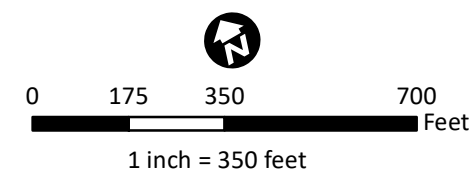


- Project Location
- Blue Line
- Green Line
- Orange Line
- Yellow Line
- Red Line
- Red Line Extension

MAX Red Line Extension



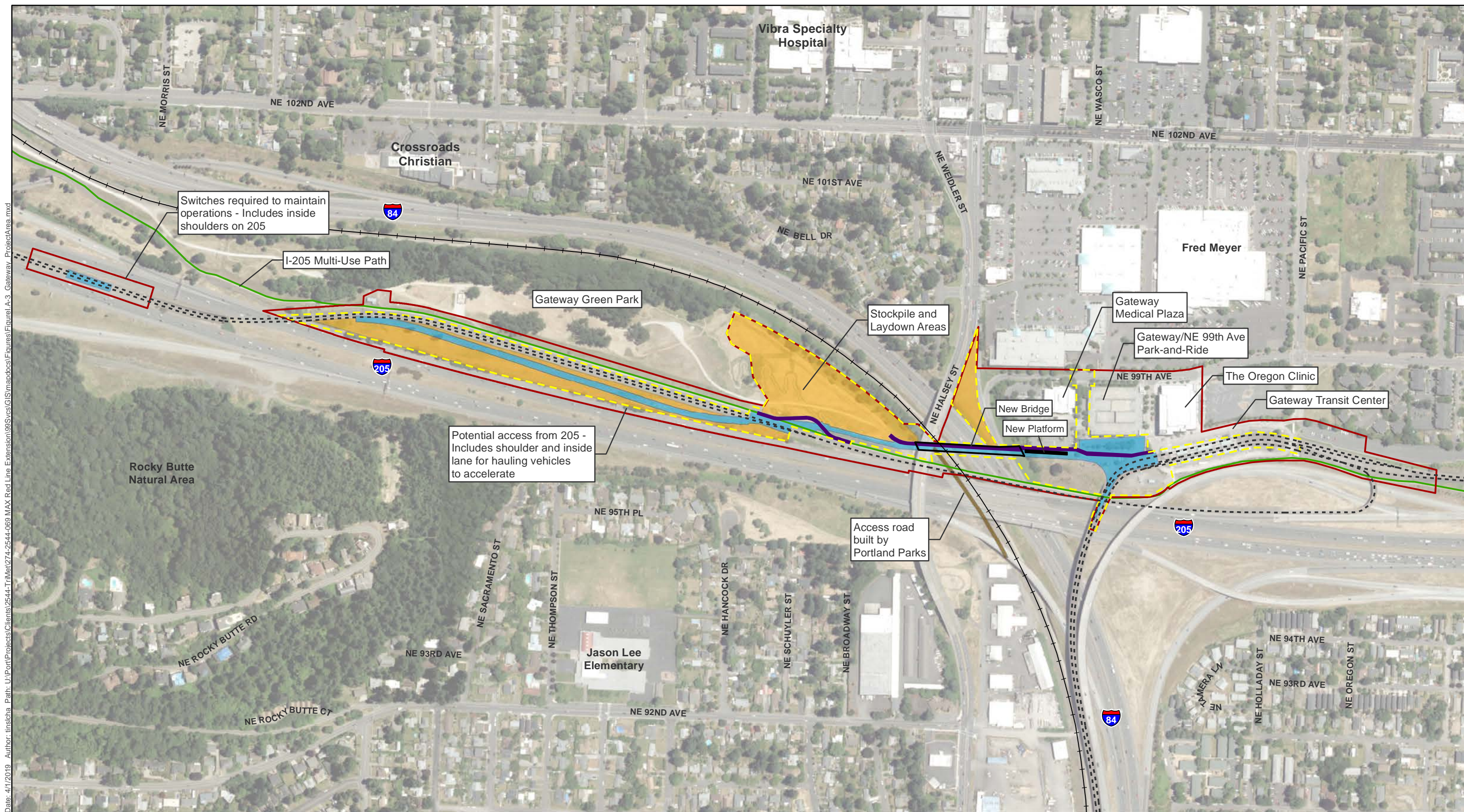
Source: Metro's Regional Land Information System (RLIS), City of Portland, TriMet



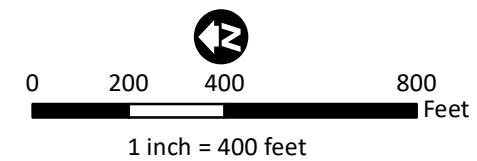
- Project Area
- Construction Footprint
- Potential Staging Area
- Existing MAX Line
- Existing MAX Station Platform
- Concourse A

Figure I. A-2
Project Area
PDX Airport

Date: 4/1/2019 Author: inselcha_Path: U:\Portl\Projects\Clients\2544-Trimet\274-2544-069 MAX Red Line Extension\995\GIS\MapDocs\Figures\Figure_I_A-2_PDXAirport_ProjectArea.mxd



Source: Metro's Regional Land Information System (RLIS), City of Portland



- Project Area
- New Light Rail Infrastructure
- New Multi-Use Path
- Stockpile/Laydown Area
- Access Road (Portland Parks)
- Extent of Construction Existing
- MAX Line
- Union Pacific Railroad
- Existing Regional Multi-Use Path

Figure I. A-3
Project Area
Gateway Station

Date: 2/13/2019 Author: tinscha_Path: \\paramatrix.com\proj\Portl\Projects\Clients\2544-TriMet\274-2544-069 MAX Red Line Extension\99\Srcs\GIS\mapdocs\Figures\Figure_A-4_FairComplex_ProjectArea.mxd



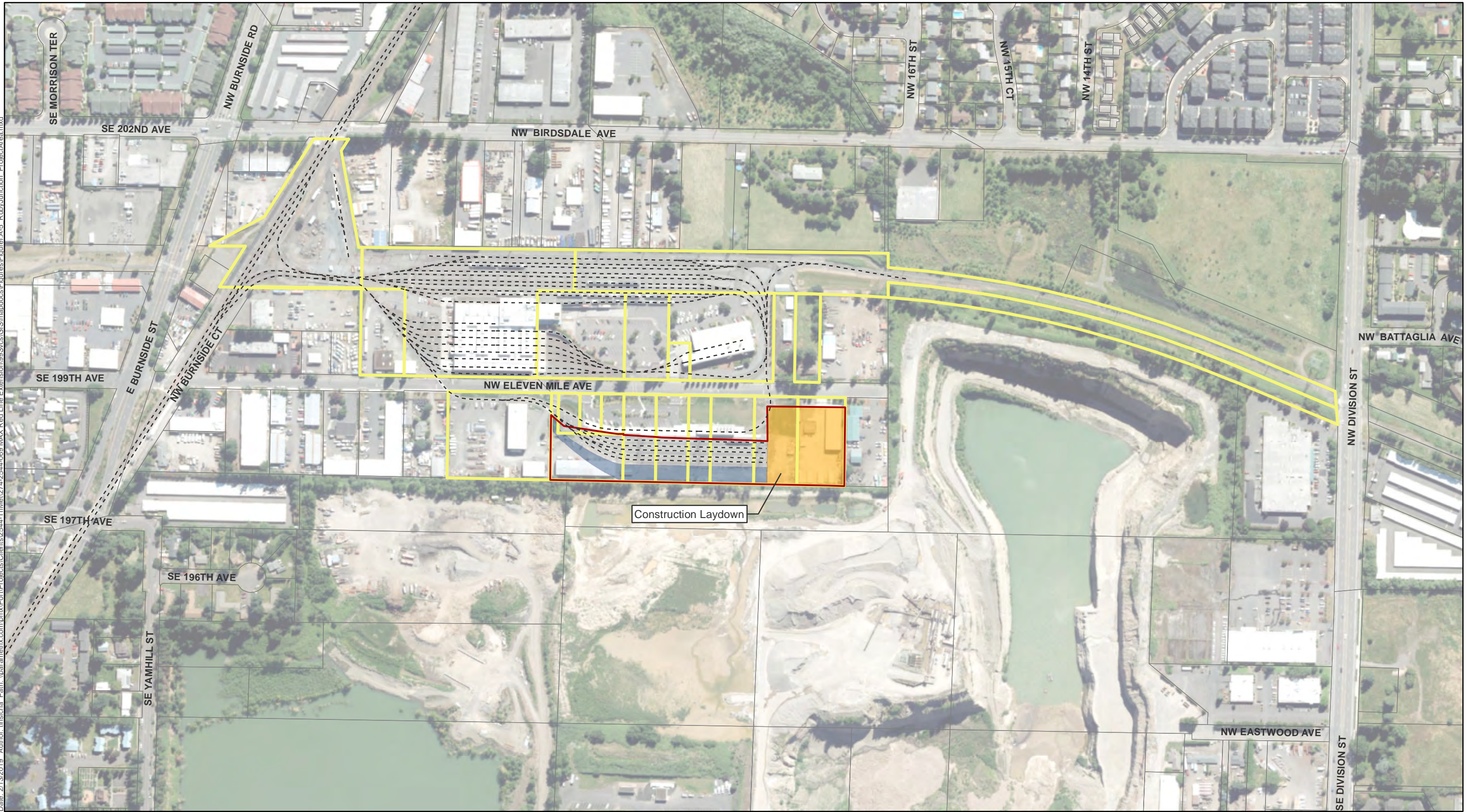
Source: Metro's Regional Land Information System (RLIS), City of Portland

- Project Area
- Limit of New Permanent Infrastructure (Approx.)
- Potential Staging Area
- Existing MAX Line
- Existing Station Parking Area
- Tax Lot

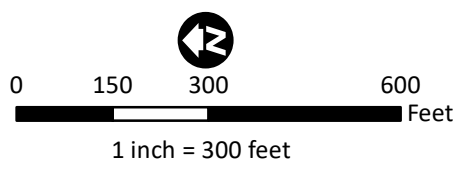
Figure I. A-4
Project Area
Fair Complex/Hillsboro Station

MAX Red Line Extension

Date: 2/13/2019 Author: tinscha Path: \\saramatrix.com\port\Projects\Clients\2544-TriMet\274-2544-069 MAX Red Line Extension\99\Srcs\GIS\mapdocs\Figures\Figure I.A-5_RubyJunction_ProjectArea.mxd



Source: Metro's Regional Land Information System (RLIS), City of Portland, TriMet



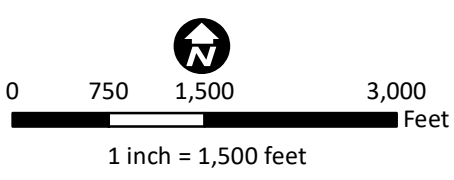
- Project Area
- Limit of New Permanent Infrastructure (Approx.)
- Potential Staging Area
- Existing MAX Line
- TriMet Owned Property
- Tax Lot

Figure I. A-5
Project Area
Ruby Junction Site

MAX Red Line Extension



Source: Metro's Regional Land Information System (RLIS), City of Portland, TriMet

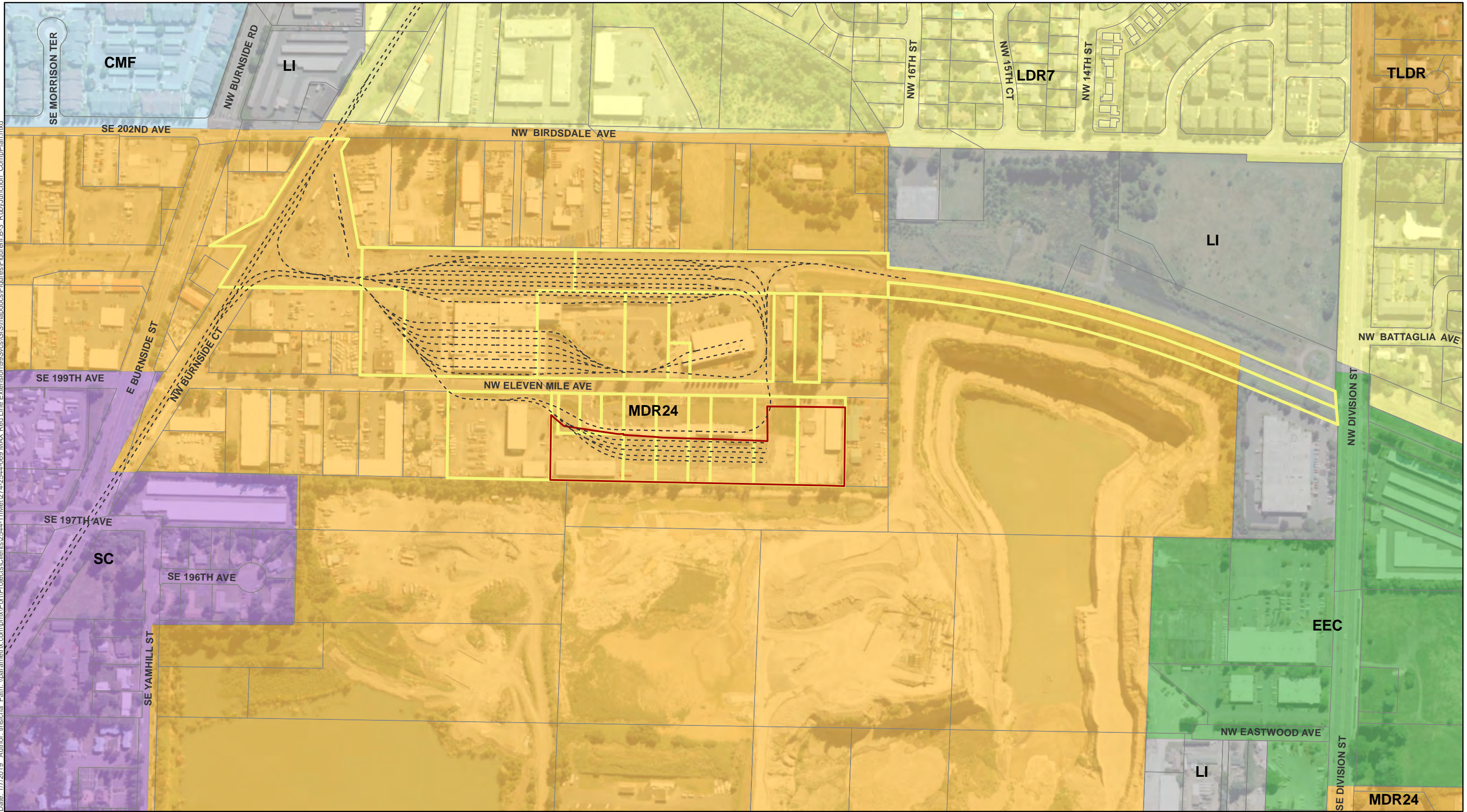


Project Area Existing MAX Line

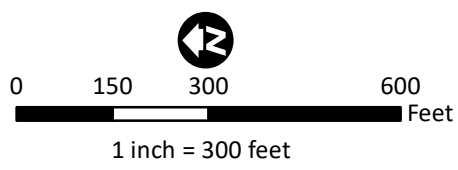
Figure III.B-1
Comprehensive Plan Designations
PDX Airport and Gateway Project Areas

MAX Red Line Extension

Date: 1/7/2019 Author: insicha_Path: \\parametrix.com\pmx\Port\Projects\Clients\2544-TriMet\274-2544-069 MAX_Red_Line_Extension\99\Svcs\GIS\mapdocs\Figures\FigureIII.B-3_RubyJunction_CompPlan.mxd



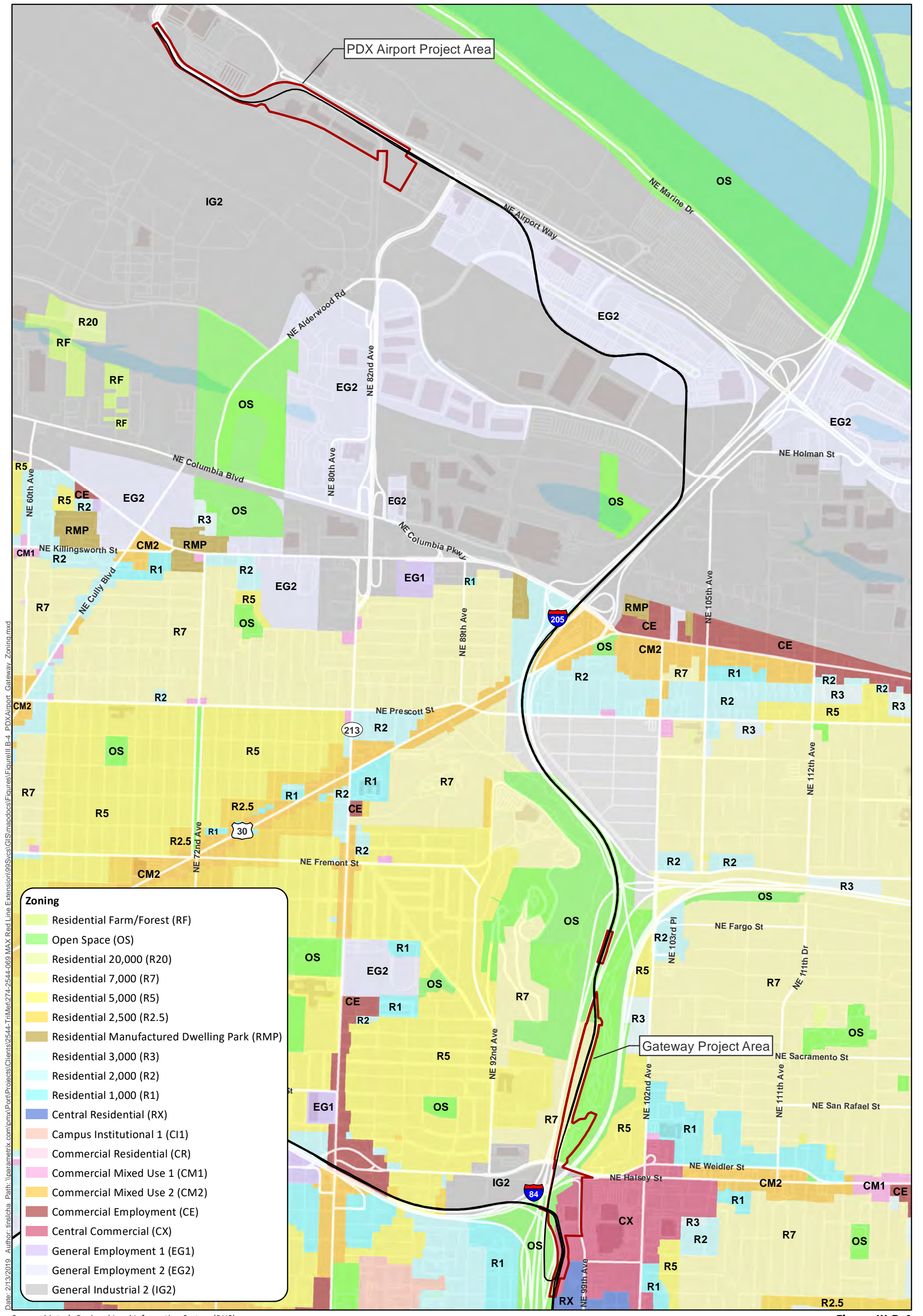
Source: Metro's Regional Land Information System (RLIS), City of Portland, TriMet



- | | | |
|---|---|--|
| Project Area | Comprehensive Plan | LI: |
| Existing MAX Line | CMF: Corridor Multi-Family | MDR-24: Moderate Density Residential - 24 |
| TriMet Owned Property | EEC: | SC: Station Center |
| Tax Lot | LDR-7: Low Density Residential - 7 | TLDR: Transit Low Density Residential |

Figure III.B-3
Comprehensive Plan Designations
 Ruby Junction Site

MAX Red Line Extension



Zoning

- Residential Farm/Forest (RF)
- Open Space (OS)
- Residential 20,000 (R20)
- Residential 7,000 (R7)
- Residential 5,000 (R5)
- Residential 2,500 (R2.5)
- Residential Manufactured Dwelling Park (RMP)
- Residential 3,000 (R3)
- Residential 2,000 (R2)
- Residential 1,000 (R1)
- Central Residential (RX)
- Campus Institutional 1 (CI1)
- Commercial Residential (CR)
- Commercial Mixed Use 1 (CM1)
- Commercial Mixed Use 2 (CM2)
- Commercial Employment (CE)
- Central Commercial (CX)
- General Employment 1 (EG1)
- General Employment 2 (EG2)
- General Industrial 2 (IG2)

Source: Metro's Regional Land Information System (RLIS), City of Portland, TriMet

Project Area Existing MAX Line

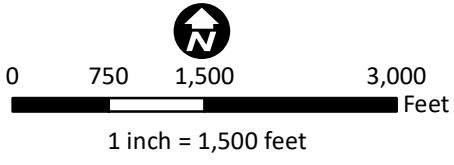
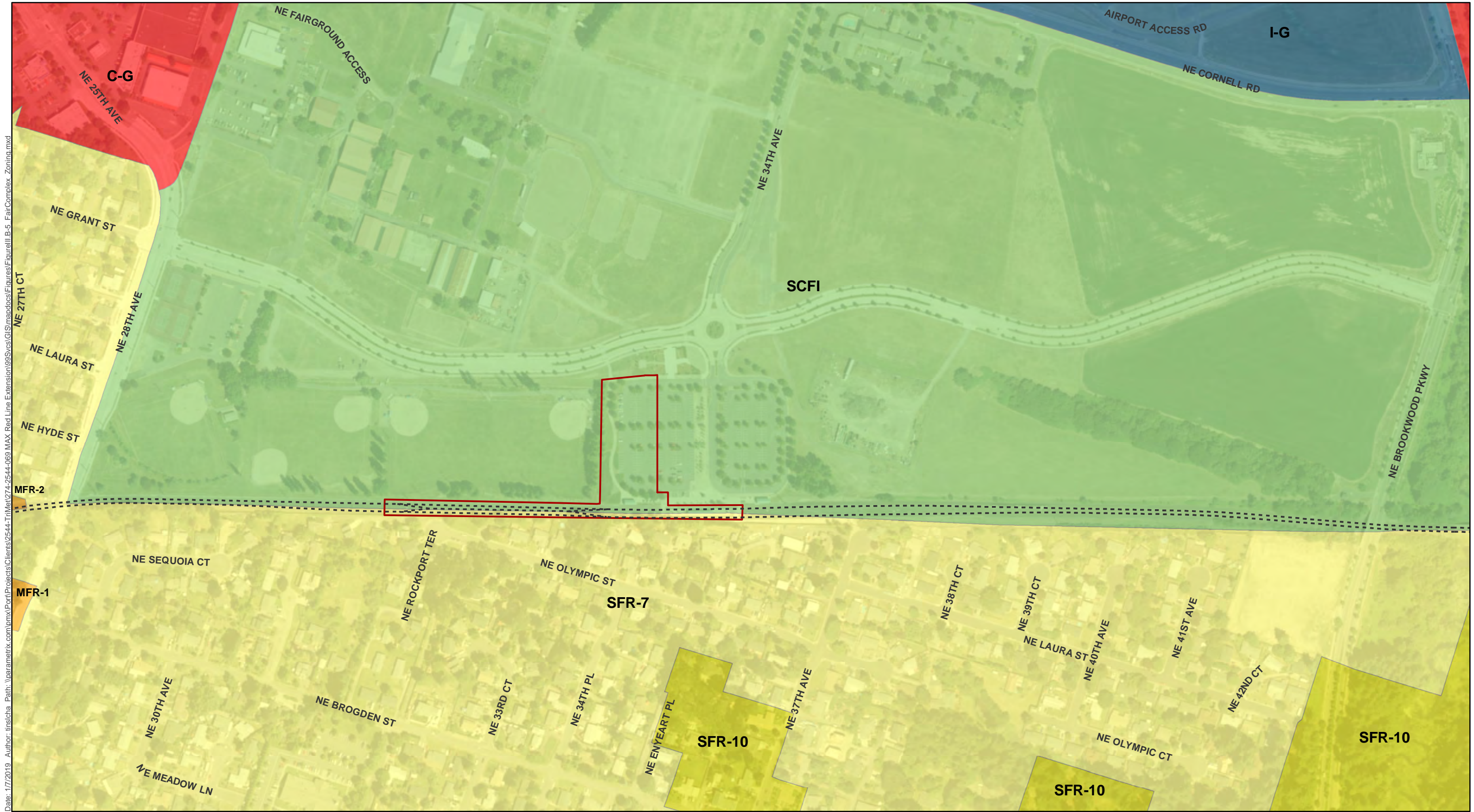
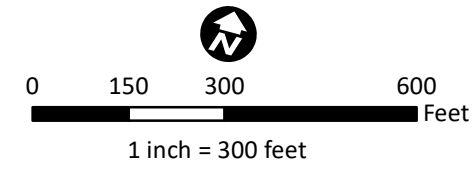


Figure III.B-4
Zoning Designations
PDX Airport and Gateway Project Areas



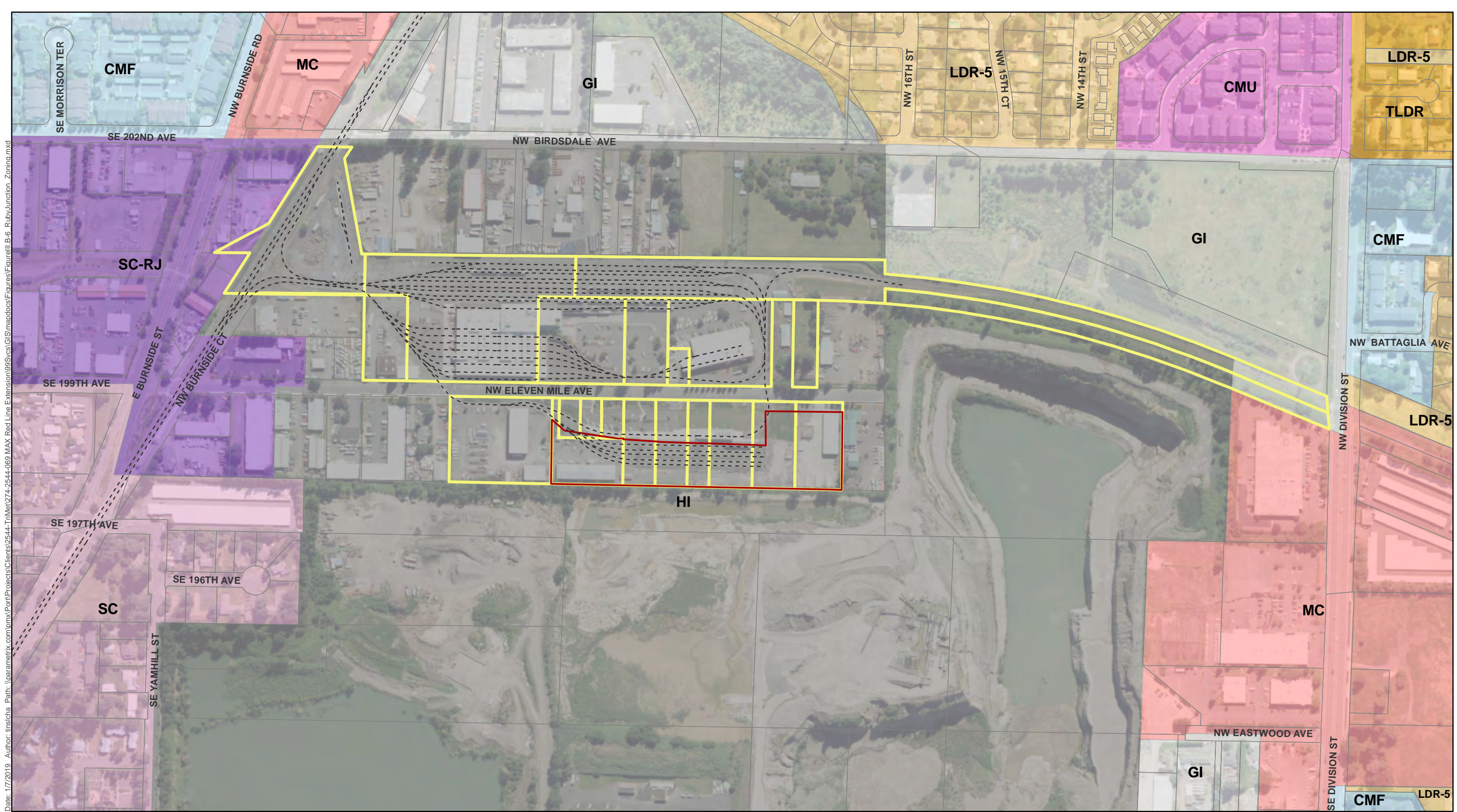
Source: Metro's Regional Land Information System (RLIS), City of Portland



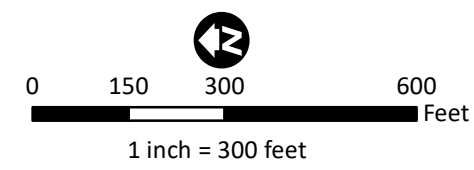
- | | | |
|-------------------|---------------------------------|--|
| Project Area | Zoning | MFR-2: Multi-Family Residential |
| Existing MAX Line | C-G: Commercial General | SCFI: Station Community Fair Complex Institutional |
| | I-G: Industrial General | SFR-10: Single Family Residential |
| | MFR-1: Multi-Family Residential | SFR-7: Single Family Residential |

Figure III.B-5
Zoning Designations
Fair Complex/Hillsboro Station

MAX Red Line Extension



Source: Metro's Regional Land Information System (RLIS), City of Portland, TriMet



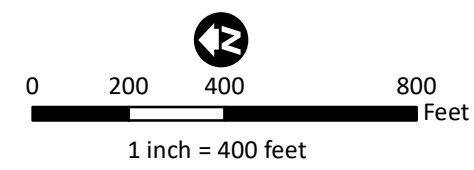
- | | | |
|---|--|--|
| Project Area | Zoning | LDR-5: Low Density Residential - 5 |
| Existing MAX Line | CMF: Corridor Multi-Family | MC: Moderate Commercial |
| TriMet Owned Property | CMU: Corridor Mixed Use | SC: Station Center |
| Tax Lot | GI: General Industrial | SC-RJ: Station Center Ruby Junction Overlay |
| | HI: Heavy Industrial | TLDR: Transit Low Density Residential |

Figure III.B-6
Zoning Designations
Ruby Junction Site



Date: 4/1/2019 Author: inselcha_Path: U:\Portl\Projects\Clients\25444-TriMet\274-2544-069 MAX Red Line Extension\99Sves\GIS\mapdocs\Figures\FigureIII.B-7 Gateway CommunityFacilities.mxd

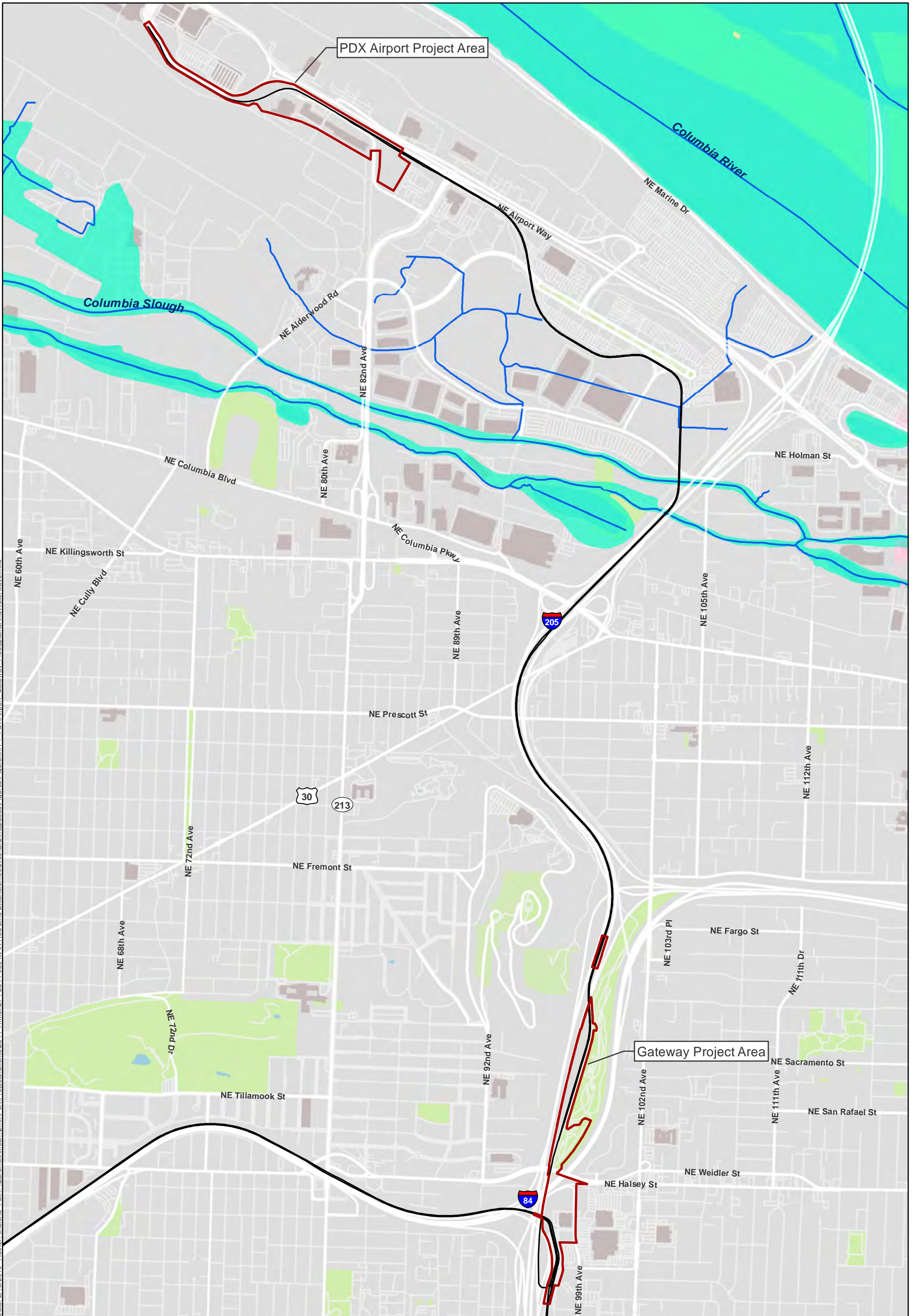
Source: Metro's Regional Land Information System (RLIS), City of Portland



- Existing MAX Line
- +— Union Pacific Railroad
- Existing I-205 Multi-Use Path
- ▭ Project Area

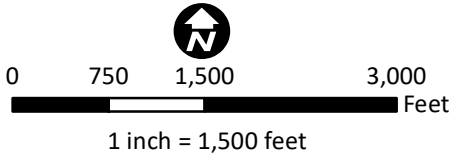
Figure III. B-7
Key Community Facilities
 Gateway Station

MAX Red Line Extension



Date: 2/13/2019 Author: tinslcha Path: \\portmetrix.com\pmx\Port\Projects\Clients\2544-TriMet\274-2544-069-MAX_Red_Line_Extension\99\SVCS\GIS\Mapdocs\Figures\FigureIII.H-1_PDXAirport_Gateway_FloodplainsAndWaterways.mxd

Source: Metro's Regional Land Information System (RLIS), City of Portland, TriMet, FEMA

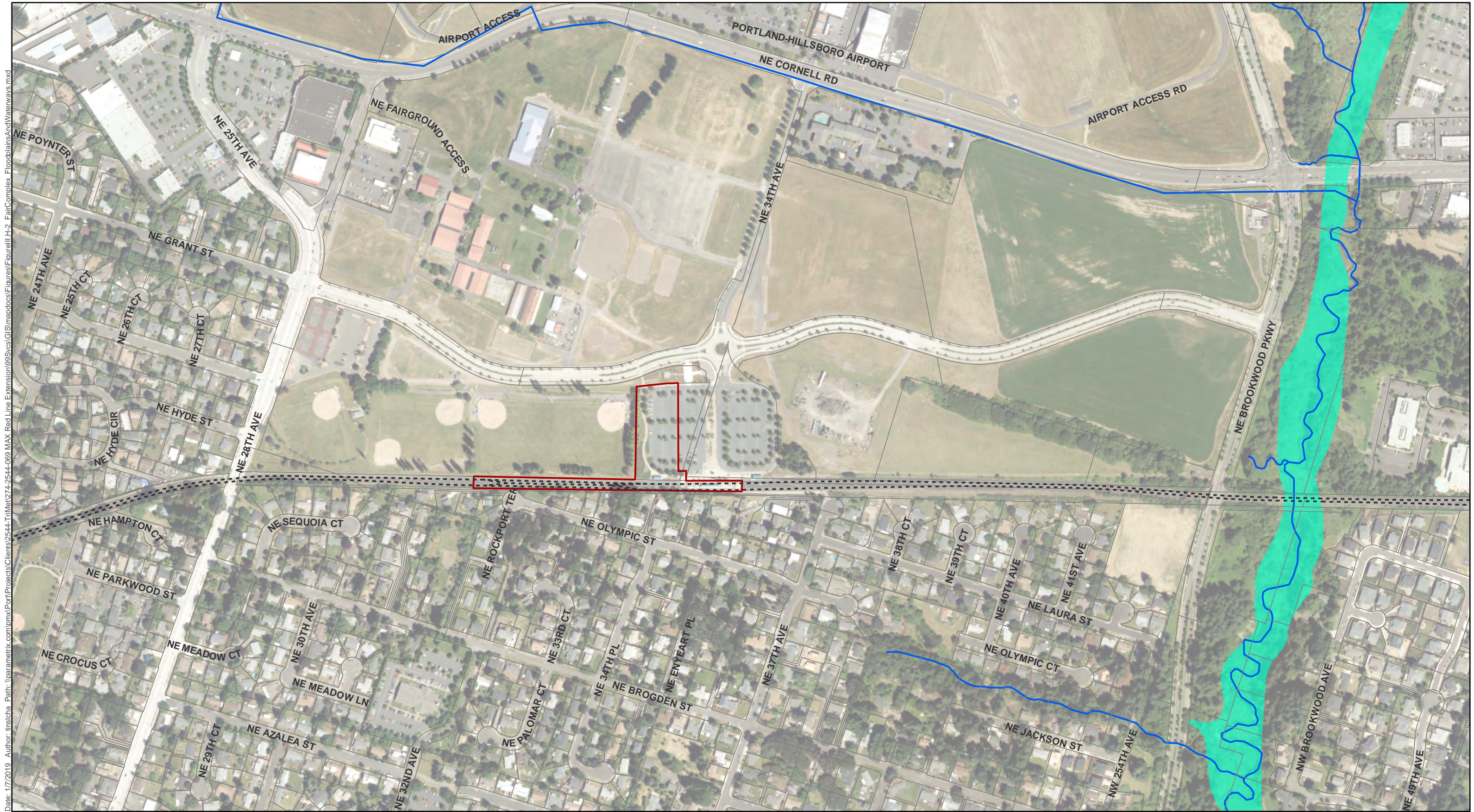


*Note: 100 Year Flood Plain as delineated by the Federal Emergency Management Association (FEMA). Digitized by the Portland Office of the Army Corps of Engineers. Updated with local input.

- Project Area
- Existing MAX Line
- Stream Route (RLIS)
- *100-Year Floodplain (RLIS/FEMA)

Figure III.H-1
FEMA 100-Year Floodplains
and Local Waterways
PDX Airport and Gateway Project Areas

MAX Red Line Extension



Source: Metro's Regional Land Information System (RLIS), City of Portland, TriMet, FEMA

*Note: 100 Year Flood Plain as delineated by the Federal Emergency Management Association (FEMA). Digitized by the Portland Office of the Army Corps of Engineers. Updated with local input.

- Project Area
- Existing MAX Line
- Tax Lot
- Stream Route (RLIS)
- *100-Year Floodplain (RLIS/FEMA)

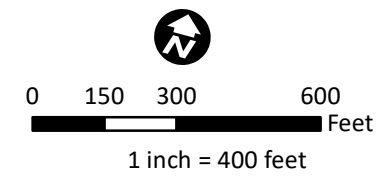
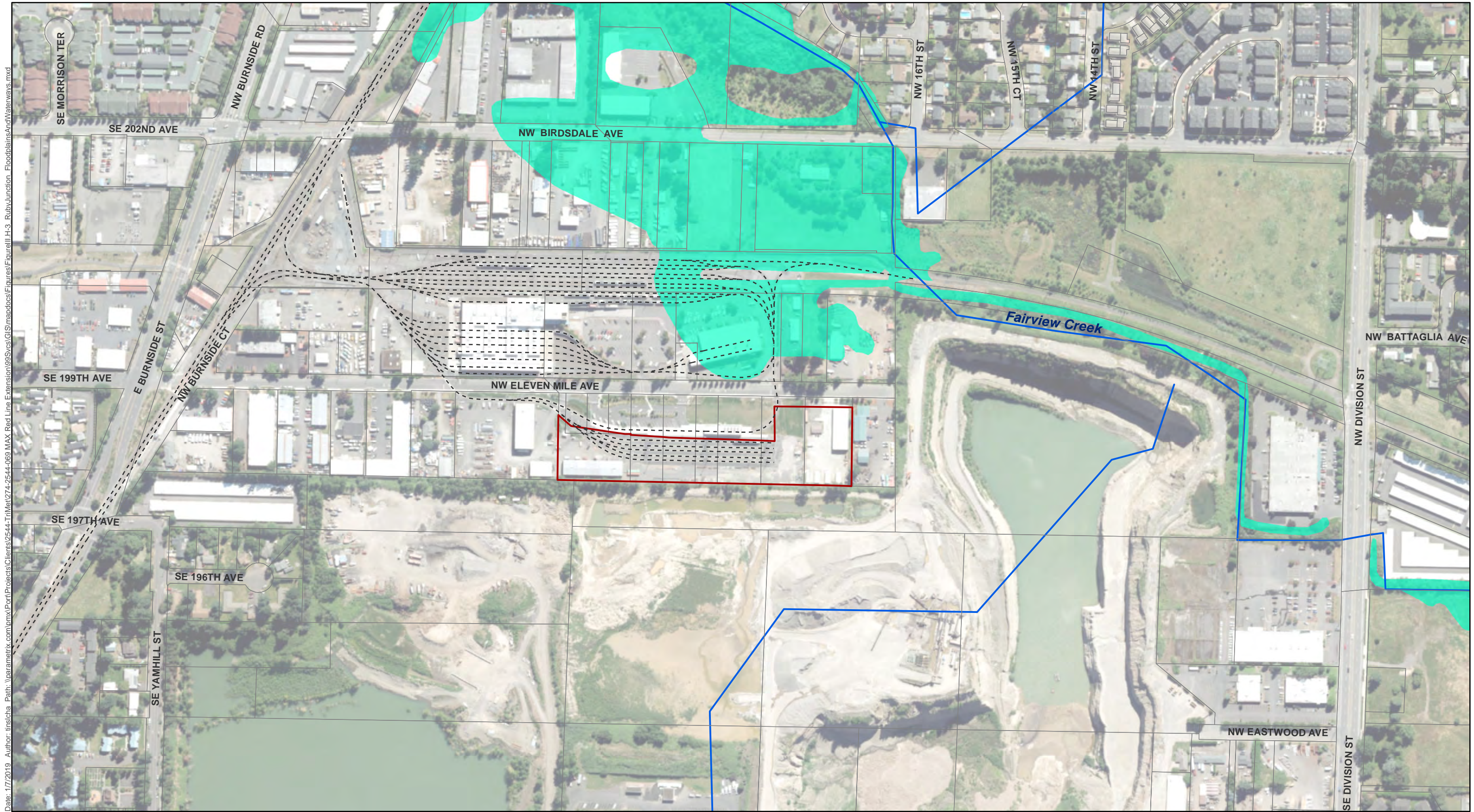


Figure III.H-2
FEMA 100-Year Floodplains
and Local Waterways
Fair Complex/Hillsboro Station

MAX Red Line Extension



Source: Metro's Regional Land Information System (RLIS), City of Portland, TriMet, FEMA

*Note: 100 Year Flood Plain as delineated by the Federal Emergency Management Association (FEMA). Digitized by the Portland Office of the Army Corps of Engineers. Updated with local input.

- Project Area
- Existing MAX Line
- Tax Lot
- Stream Route (RLIS)
- *100-Year Floodplain (RLIS/FEMA)

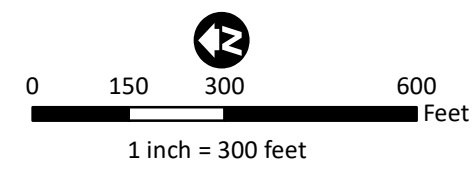


Figure III.H-3
FEMA 100-Year Floodplains
and Local Waterways
 Ruby Junction Site

MAX Red Line Extension



Oregon

Kate Brown, Governor

Parks and Recreation Department

State Historic Preservation Office

725 Summer St NE Ste C

Salem, OR 97301-1266

Phone (503) 986-0690

Fax (503) 986-0793

www.oregonheritage.org



August 16, 2019

Mr. Steve Saxton
Federal Transit Administration
915 Second Ave., Suite 3142
Seattle, WA 98174

RE: SHPO Case No. 18-1134

FTA, TRIMET, MAX RED LINE EXTENSION and RELIABILITY IMPROVEMENTS PROJECT

Double track of single track sections

Multiple locations Gateway TC 1N 2E 38, 33 PDX Airport 1N 2E 8, Portland Hillsboro Beaverton,
Multnomah Washington County

Dear Mr. Saxton:

Thank you for submitting consultation materials for the project referenced above. We concur that the 1951 building located within the Ruby Junction APE is not eligible for listing in the National Register of Historic Places due to a loss of historic integrity. We also concur that the Oregon Railway and Navigation Company railroad is eligible for listing in the National Register. However, without complete documentation - including an evaluation under all four National Register criteria, evaluation of integrity, list of contributing and non-contributing resources, and property boundary - we do not have enough information to concur with any eligibility determination for the Portland International Airport or agree that there are no historic resources within the PDX Airport APE. The entire Portland International Airport should be treated as eligible until this is completed and our office has the opportunity to review and comment on the eligibility and historic boundary. However, based on our understanding of the proposed scope work, we believe that the proposed undertaking will result in no adverse effect to historic properties. This letter refers to above-ground historic resources only. Comments pursuant to a review for archaeological resources, if applicable, will be sent separately.

Unless there are changes to the project, this concludes the requirement for consultation with our office under Section 106 of the National Historic Preservation Act (per 36 CFR Part 800) for above-ground historic properties. Local regulations, if any, still apply and review under local ordinances may be required. Please feel free to contact me if you have any questions, comments, or need additional assistance.

Sincerely,

Tracy Schwartz
Historic Preservation Specialist
(503) 986-0677
tracy.schwartz@oregon.gov

cc: Joe Recker, TriMet





Oregon

Kate Brown, Governor

Parks and Recreation Department

State Historic Preservation Office

725 Summer St NE Ste C

Salem, OR 97301-1266

Phone (503) 986-0690

Fax (503) 986-0793

www.oregonheritage.org



August 19, 2019

Mr. Steve Saxton
Federal Transit Administration
915 Second Ave., Suite 3142
Seattle, WA 98174

RE: SHPO Case No. 18-1134

FTA, TRIMET, MAX RED LINE EXTENSION and RELIABILITY IMPROVEMENTS PROJECT

Double track of single track sections

Multiple locations Gateway TC 1N 2E 38, 33 PDX Airport 1N 2E 8, Portland Hillsboro Beaverton,
Multnomah Washington County

Dear Mr. Saxton:

Our office recently received a report of archaeological investigations for the project referenced above. The report has been assigned SHPO Report# 30553 and added to the SHPO Library. We have reviewed the report and concur that a good faith effort has been implemented and the project will likely have no effect on any significant archaeological objects or sites. Based on the information provided, aside for the need to have a professional archaeologist on site to monitor during boring activities associated with geotechnical bores B-2 and B-3, additional archaeological research is not anticipated for this project. In the unlikely event an archaeological object or site (i.e., historic or prehistoric) is encountered during project implementation, all ground disturbance at the location should cease immediately until a professional archaeologist can be contacted to evaluate the discovery. For this reason, project proponents should have an Inadvertent Discovery Plan (IDP) on hand before ground disturbing activities commence. Under state law (ORS 358.905-955 & ORS 97.740) archaeological sites, objects and human remains are protected on both public and private land in Oregon. If you have not already done so, be sure to consult with all appropriate Indian tribes regarding your proposed project. If you have any questions regarding any future discovery or this letter, feel free to contact me at your convenience.

Sincerely,

Dennis Griffin, Ph.D., RPA
State Archaeologist
(503) 986-0674
dennis.griffin@oregon.gov

cc: Joe Recker, TriMet

